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# **FINAL CONSTRUCTION COMPLETION REPORT**

## **For The Pemaco Remedial Action**

**PEMACO SUPERFUND SITE**  
5050 E. Slauson Avenue  
Maywood, California

### **VOLUME II**

#### **Appendix 1**

#### **Prepared for:**

U.S. Environmental Protection Agency  
Region IX  
San Francisco, California



U.S. Army Corps of Engineers  
Omaha District  
Omaha, Nebraska



#### **Prepared by:**

 **T N & Associates, Inc.**  
**&A** Engineering and Science  
317 E. Main Street  
Ventura, California 93001

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September 30, 2007

## **VOLUME II**

### **Appendix 1**

#### **As-Built Drawings As-Built**

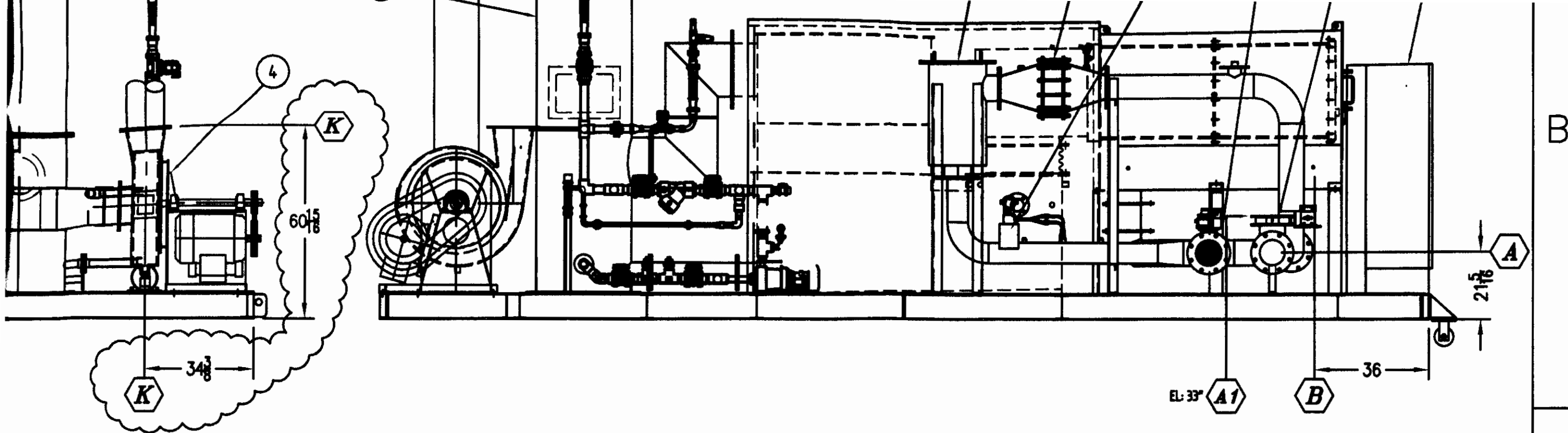
## **LIST OF DRAWINGS**

### **As-Built Drawings As-Built**

Drawing 12584-7	Model 10 Flawless Thermal Oxidizer W. Scrubber General Arrangement of Equipment
Drawing 12584-101	Model 10 Flameless Oxidizer & Scrubber Oxidizer Process & Instrumentation Diagram
Drawing 12584-102	Model 10 Flameless Oxidizer & Scrubber Quench and Scrubber Proc & Inst Diagram
Drawing C-1	Site Plan, TCE Plume, and Utilities
Drawing C-2	Trench Location Plan
Drawing C-3	Wells, Pipes, and Trenches
Drawing C-4	Trench Details
Drawing C-5	Pipe-Trench Elevation Profiles
Drawing C-6	Perched Zone Well Section and Details
Drawing C-7	Lower Vadose Zone Well Section and Details
Drawing C-8	Exposition Zone Well Section and Details
Drawing C-9	Miscellaneous Pipe Details
Drawing C-10A	Condensate Sump Retrofit Detail
Drawing C-10B	Condensate Sump Elevation Profiles
Drawing C-10C	Condensate Sump Manifold Detail
Drawing 10D	Condensate Sump Retrofit Detail
Drawing C-11	Treatment Compound Elevations
Drawing C-12	Treatment Compound Plan
Drawing C-13	Treatment Compound Sections
Drawing C-15B	Treatment Compound Subslab Profile
Drawing C-15C	Treatment Compound Connection Plan
Drawing C-16	Fence and Surface Pavement Details

## **LIST OF DRAWINGS (Continued)**

Drawing C-17	Pemaco Exhaust Stack Design
Drawing E-1	Electrical Legend
Drawing E-2	Electrical Single Line Diagram
Drawing E-3	Treatment Compound Electrical Plan
Drawing E-4	Miscellaneous Electrical Sections
Drawing E-5	Electrical Details
Drawing G-1	Title Sheet
Drawing G-2	General Construction Notes
Drawing M-1	General Piping and Instrumentation Diagram
Drawing M-1A	General Piping and Instrumentation Diagram Vapor Conditioning Package & Compressed Air System
Drawing M-2	Perched Zone DPE P & ID
Drawing M-3	Lower Vadose & Exposition Zone Groundwater and Vapor Extraction Piping P & ID
Drawing M-4	Treatment Compound Process Layout
Drawing M-5	Treatment System Process and Equipment Details



END ELEVATION

WEST SIDE ELEVATION

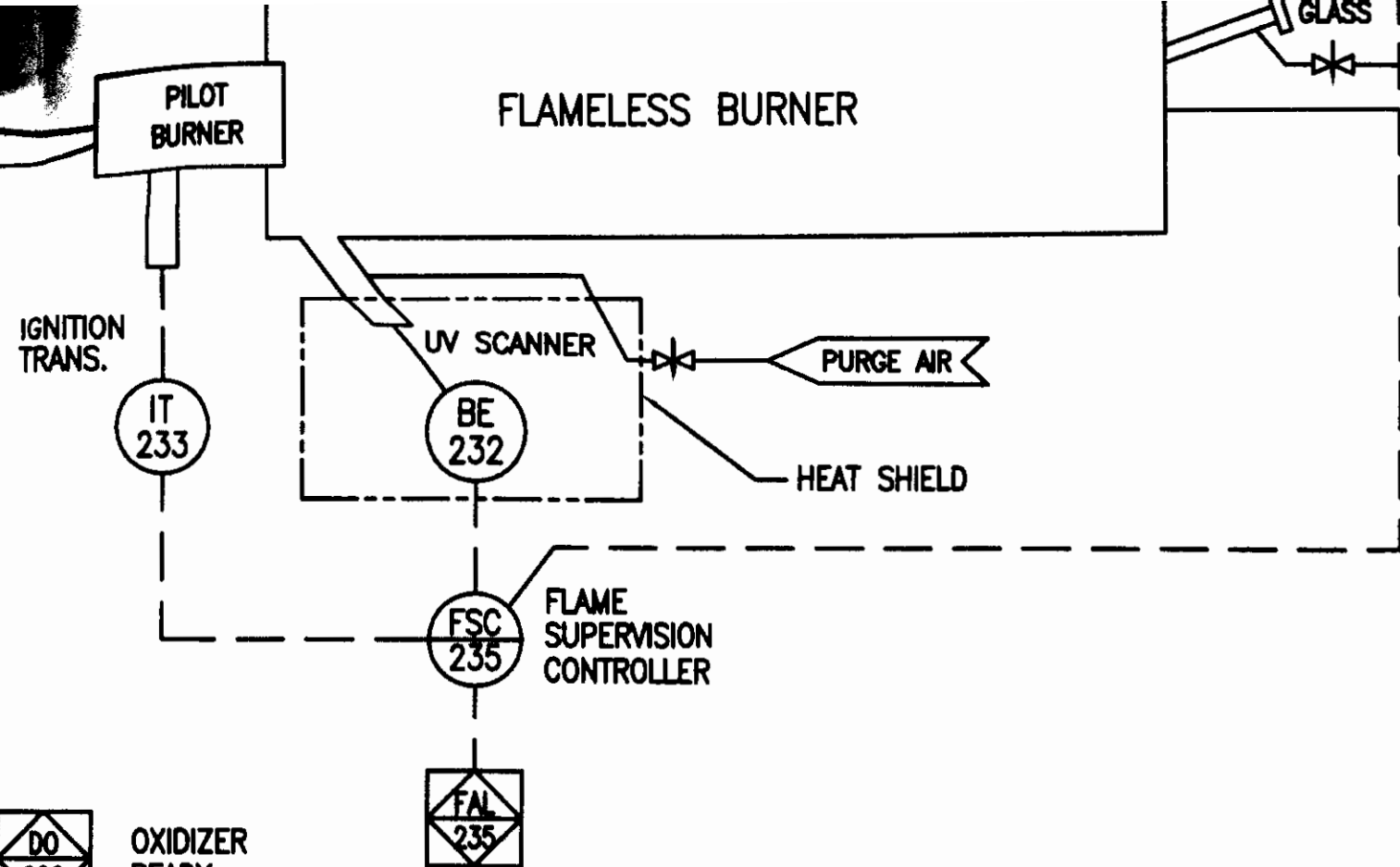
NSE FROM:  
 CORPORATION  
 Pa, CA 95054-1000

# REFERENCE DRAWING

REV	BY	DATE	CHANGE
A	JPW	24AUG06	MOVE WHEELS TO OPPOSITE END REVISE FAN & SCRBR TO ACTUAL DIMENSIONS

<b>ANGUIL</b> INFORMATION CONTAINED HEREIN IS THE PROPERTY OF ANGUIL ENVIRONMENTAL SYSTEMS, INC. AND IS LOANED FOR INFORMATION ONLY. DRAWING OR PARTS OF DRAWING MAY NOT BE REPRODUCED WITHOUT THE EXPRESSED WRITTEN CONSENT OF ANGUIL ENVIRONMENTAL SYSTEMS, INC., MILWAUKEE, WI.		ANGUIL ENVIRONMENTAL SYSTEMS, INC. MILWAUKEE, WISCONSIN	
TITLE MODEL 10 FLAMELESS THERMAL OXIDIZER W. SCRUBBER GENERAL ARRANGEMENT OF EQUIPMENT		DRAWING NO. 12584-7 SCALE 3/8" = 1'-0"	
DRAWN JPW CHECKED DATE APPROVED DATE	DATE 17 JUL Y06 DATE DATE	CUSTOMER PEMACO SUPERFUND SITE US ARMY CORP OF ENGINEERS MAYWOOD CA	REV. A
LAST DRAWN JPW DATE 24 AUG 06	SOURCE	PAGE 1 OF 1	AUTOCAD PATH H:\CAD\JDS\12584

4 | 3 | 2 | LAST PLOT BY JPW DATE 24 AUG 06



OXIDIZER  
READY



CUSTOMER  
SHUTDOWN REQUEST



CUSTOMER  
OFFLINE REQUEST

# NOTE:

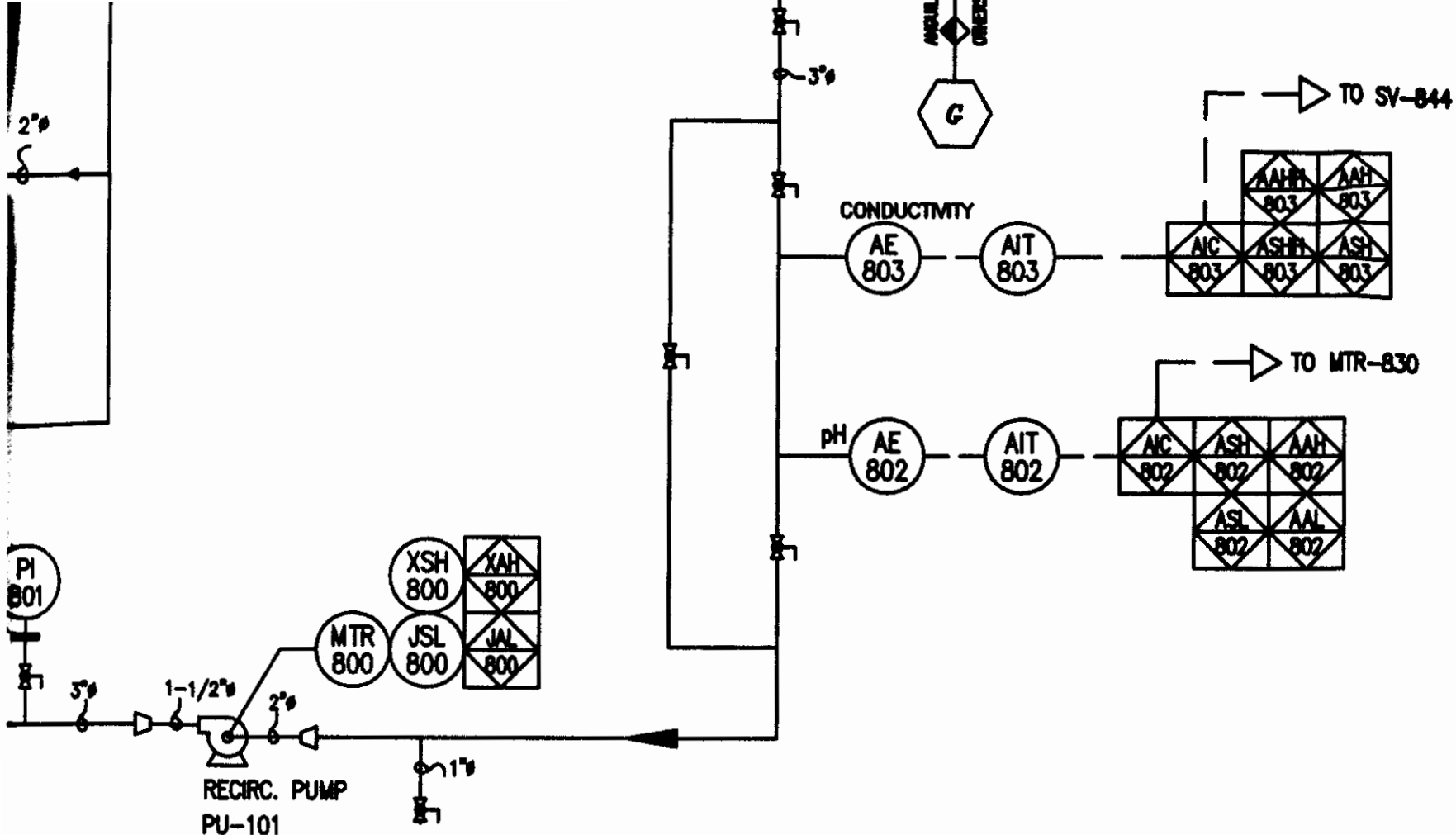
- 1) OXIDIZER AND SCRUBBER LOCATED INDOORS.
- 2) CONTROL PANEL NEMA 12 ON THE SKID WITH VFD INSIDE. NOT AIR CONDITIONED.
- 3) PROCESS INLET FREE OF PARTICULATE OR OIL MIST.

## REFERENCE DRAWING

C	JPW	01SEPT06	MOVE PI-601, ADD PI-105
B	LM	8/22/06	CHANGES AS INDICATED
A	LM	7/14/06	CHANGES AS INDICATED
REV	BY	DATE	CHANGE

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TITLE MODEL 10 FLAMELESS OXIDIZER & SCRUBBER OXIDIZER PROCESS & INSTRUMENTATION DIAGRAM	DRAWING NO. 12584-101
DRAWN LM CHECKED APPROVED LAST DRAWN JPW	DATE 25MAY06 DATE DATE DATE 9/01/06
CUSTOMER US ARMY CORP OF ENG. / PEMACO MAYWOOD, CA	REV. C SOURCE PAGE 1 OF 2
AUTOCAD PATH H:\CAD\JOBS\120005	

LAST PLOT BY JPW DATE 9/1/08



**NOTE:**


- NOTE:
- 1) SCRUBBER WINTERIZATION, IF REQUIRED IS BY OTHERS.
  - 2) SCRUBBER BLOW-DOWN IS PUMPED.
  - 3) SOFT WATER 25GPM @ 60PSIG  
500 mg/liter TDS & CALCIUM ION CONC < 3ppm
  - 4) NaOH METERING PUMP HAS MAXIMUM SUCTION LIFT CAPABILITIES OF 5 FT AT 25% CONCENTRATION. SUITABLE CONTAINMENT IS RECOMMENDED.
  - 5) DEMISTER WASH SHALL BE CONDUCTED DURING SCRUBBER SHUTDOWN PERIOD.
  - 6) 5-10% WT. OF CHLORINE ENTERING THE OXIDIZER WILL BE CONVERTED TO  $\text{Cl}_2$ , A REDUCING AGENT SUCH AS SODIUM THIOSULFATE SHOULD BE MIXED WITH THE CAUSTIC SUPPLY IN A 10:1 RATIO.

**DRAWINGS:**

12584-101  
MANAGEMENT: 12584-7  
SCHEMATICS: 12584-400  
DIAGRAM: 12584-120

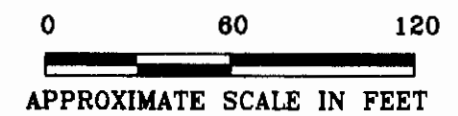
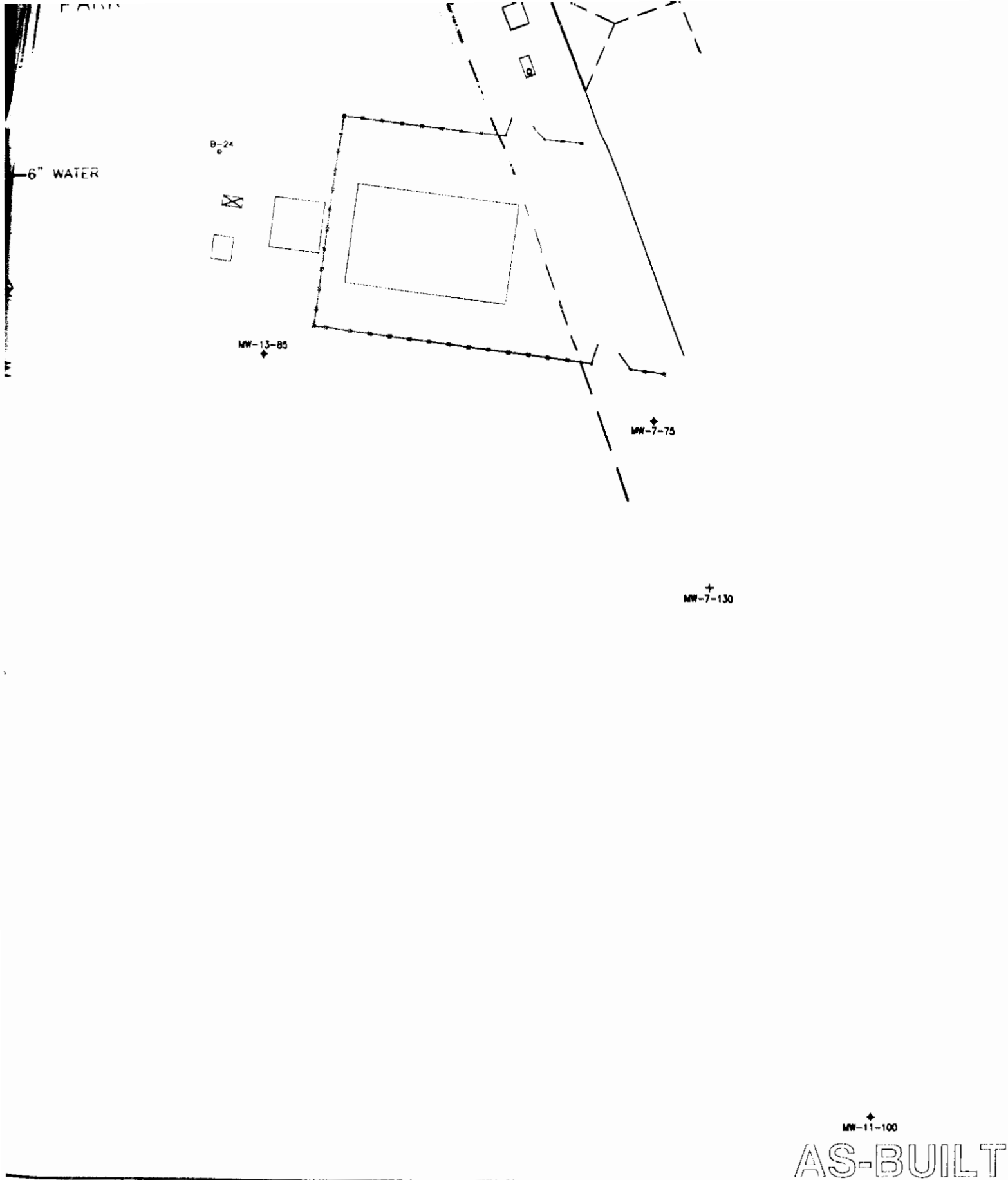
## REFERENCE DRAWING

E	LM	12/5/06	ADDED SOLENOID VALVE SV-870
D	LM	30OCT06	PT-101 CHANGED TO FIC-102 AS SHOWN
C	JPW	01SEPT06	ADD PDI-816 & PI-819; REMOVE PDSL-818
B	LM	8/16/06	CHANGES AS INDICATED
A	LM	7/17/06	CHANGES AS INDICATED
REV	BY	DATE	CHANGE

 <b>ANGUIL</b>		<b>ANGUIL ENVIRONMENTAL SYSTEMS, INC.</b> <b>MILWAUKEE, WISCONSIN</b>		
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TITLE  MODEL 10 FLAMELESS OXIDIZER & SCRUBBER  QUENCH AND SCRUBBER PROC & INST DIAGRAM		DRAWING NO. 12584-102  SCALE NTS		
DRAWN LM	DATE 25MAY06	CUSTOMER  US ARMY CORP OF ENG./PEMACO  MAYWOOD, CA	REV.  E	
CHECKED	DATE			
APPROVED	DATE			
LAST DRAWN LM	DATE 5DEC06	SOURCE	PAGE 2	OF 2

LAST PLOT BY LM DATE 5 DEC 08





# **SITE PLAN, TCE PLUME, AND UTILITIES**

**PEMACO SUPERFUND SITE**  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** **T N & Associates, Inc.**  
Engineering and Science

SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 04/23/07

DESIGNED: JW & GN

DRAWING

DRAWN: CBG

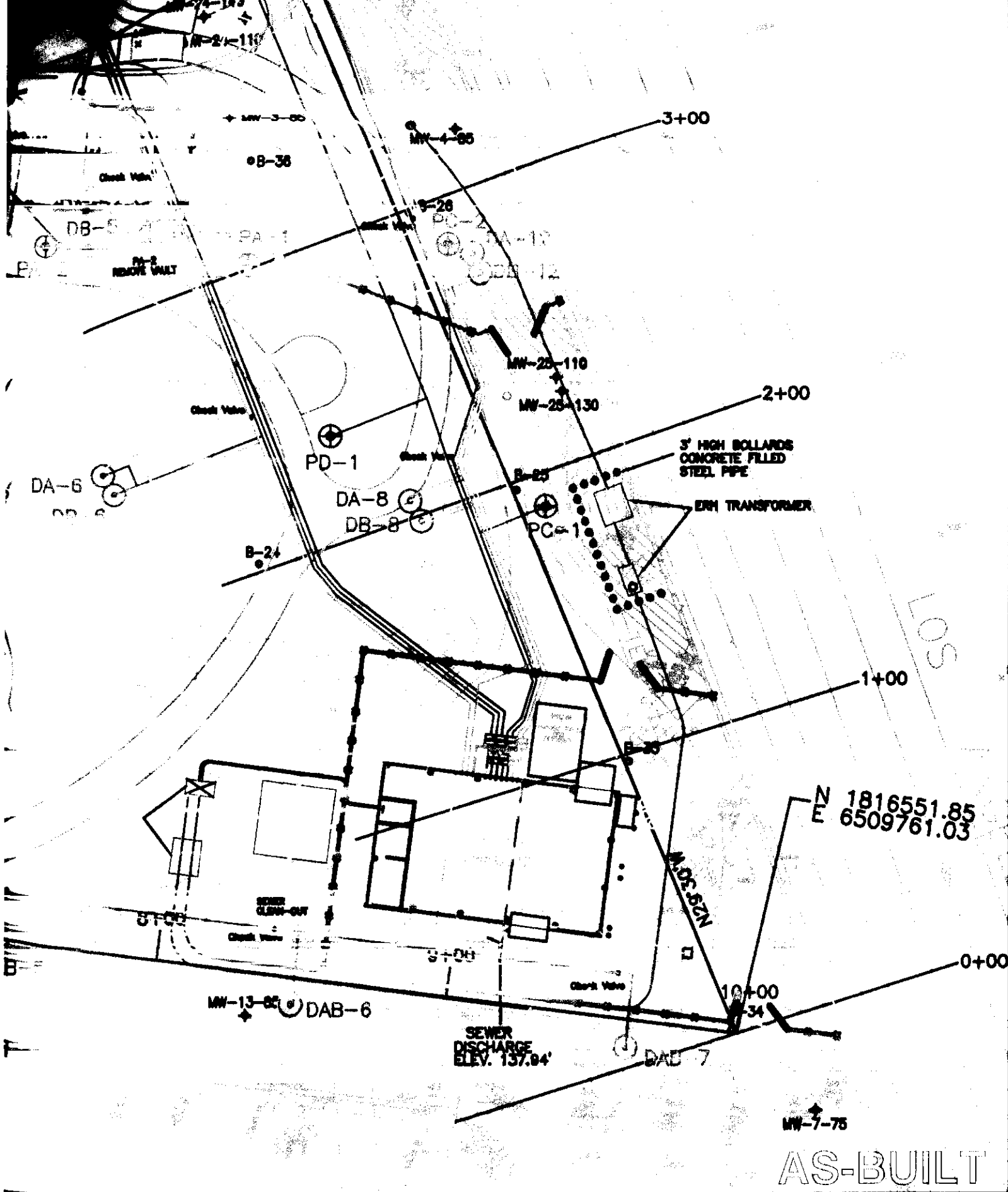
REV

CHECKED: JW

C-1

11

**SFUND RECORDS CTR**  
**2278834 (4 of 36)**



- ALL SUBSURFACE EXCAVATION LOCATIONS SHALL BE MARKED AND CLEARED BY UNDERGROUND SERVICE ALERT PRIOR TO EXCAVATION. A GEOPHYSICAL SURVEY SHALL BE PERFORMED TO BETTER IDENTIFY POTENTIAL UNDERGROUND UTILITIES AND OBSTACLES. TRENCHES AND PIPELINES SHALL BE MOVED TO ACCOMMODATE EXISTING LINES FOLLOWING APPROVAL FROM THE PROJECT ENGINEER.
- THE SOUTH TRENCH STATION LINE STARTS AT THE NE CORNER OF 60TH STREET AND ALAMO AVENUE (CURB-CENTERLINE) AS SHOWN ON THIS DRAWING.
- THE EAST AND WEST TRENCH STATION LINE STARTS AT THE 10+00 STATION MARK OF THE SOUTH TRENCH STATION LINE AND HAS A TRUE BEARING OF N 29 DEGREES 30 MINUTES 0 SECONDS W.
- EXCAVATION OF THE SOUTH TRENCH SHALL BEGIN AT STATION 2+70.12 AND PROCEED EAST ACCORDING TO THE DEPTHS SHOWN ON DRAWING C-5 AND THE CROSS SECTION REQUIREMENTS SHOWN ON DRAWING C-4.
- EXCAVATION OF THE EAST AND WEST TRENCHES SHALL BEGIN AT THEIR BRANCHES AND PROCEED TOWARD THE TREATMENT COMPOUND ACCORDING TO THE DEPTHS SHOWN ON DRAWING C-5 AND THE CROSS SECTION REQUIREMENTS SHOWN ON DRAWING C-4. THE TERMINATION POINT FOR ALL PIPELINES SHALL BE COORDINATED WITH THE TREATMENT COMPOUND FOUNDATION CONSTRUCTION.



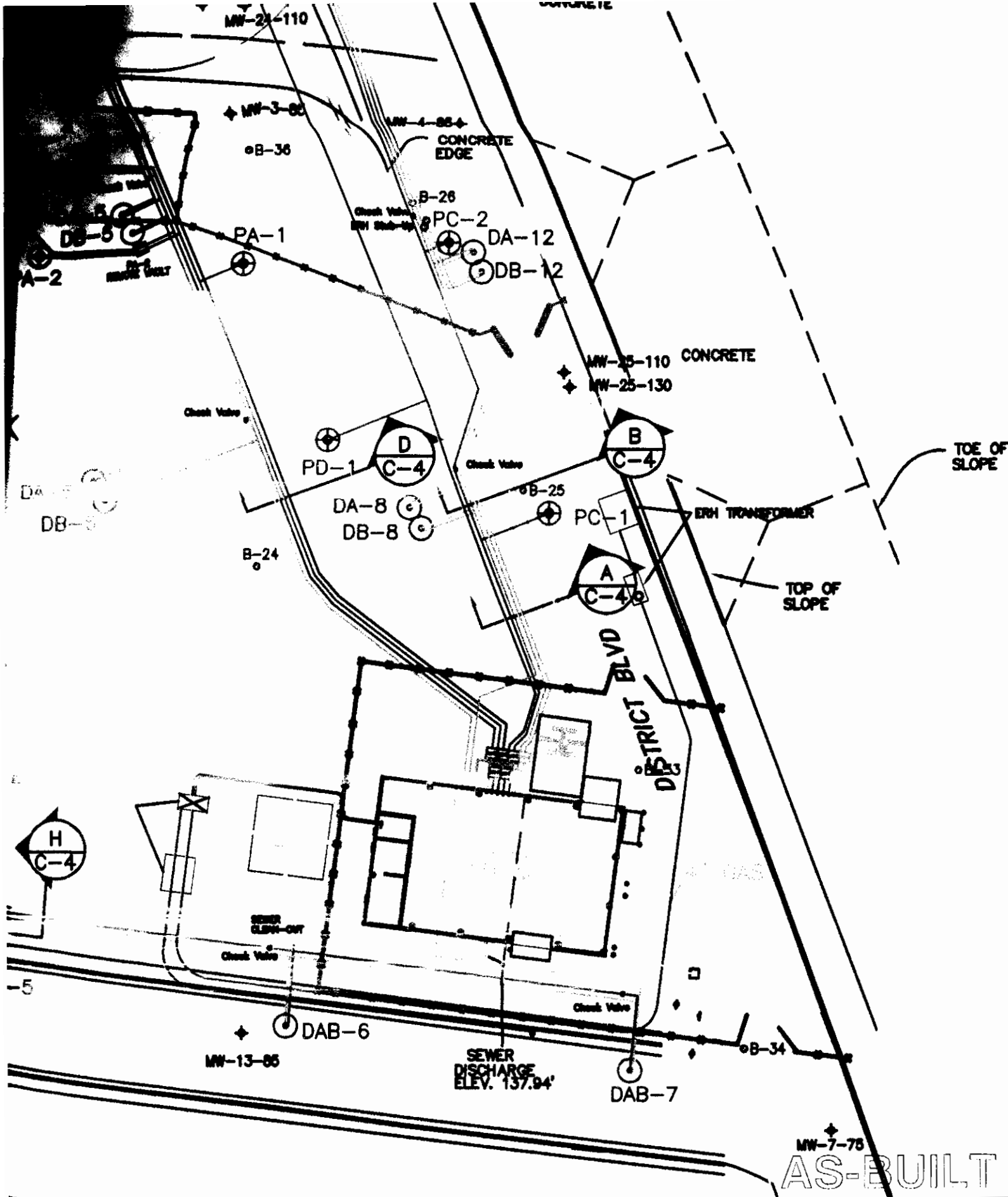
### TRENCH LOCATION PLAN

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN	APPROVED FINAL	DATE: 04/23/07
DESIGNED: JW & GN		DRAWING C-2 REV 5
DRAWN: DG		
CHECKED: JW		



5. THE ERH CONTRACTOR SHALL SPECIFY THE LOCATION AND CONSTRUCTION DETAILS FOR ALL ERH VAPOR EXTRACTION WELLS AND RELATED FACILITIES.
6. ALL PROCESS PIPING SHALL BE SLOPED TOWARD THE TREATMENT COMPOUND. A SERIES OF CONDENSATE COLLECTION SUMPS (AS SHOWN), SHALL BE LOCATED ADJACENT TO THE TREATMENT COMPOUND FOR EACH DPE OR VE PIPELINE. PIPE INSTALLATION SHOULD BEGIN AT THE LOW POINT AND WORK UPHILL TO ENSURE PROPER SLOPING IS MAINTAINED.
7. PIPELINES INSTALLED BENEATH THE TREATMENT COMPOUND FOUNDATION SHALL BE INSTALLED BETWEEN COLUMN FOOTINGS AND A MINIMUM OF 1' BENEATH THE CONCRETE SLAB.
8. TRENCH AND WELL LOCATIONS HAVE BEEN POSITIONED SO AS TO NOT INTERFERE WITH MAYWOOD PARK CONSTRUCTION LINES, GRADES AND DRAINAGE STRUCTURES. REPOSITIONING OF WELLS, PIPES OR TRENCHES SHALL BE COORDINATED WITH THE CITY OF MAYWOOD AND THE PARK CONTRACTOR.
9. THE WELL AND TRENCH CONSTRUCTION SCHEDULE SHALL BE COORDINATED WITH THE CITY OF MAYWOOD AND THE PARK CONTRACTOR TO FOLLOW PARK GRADING AND PRECEDE PARK LANDSCAPING AND HARDSCAPING. ALL WORK WITHIN THE PARK AREA SHOULD BE PERFORMED FIRST, TO BE FOLLOWED BY WORK IN ROADS (OUTSIDE OF THE PARK AREA).

0 40 80  
 APPROXIMATE SCALE IN FEET

## WELLS, PIPES AND TRENCHES

**PEMACO SUPERFUND SITE**  
 5050 EAST SLAUSON AVENUE  
 MAYWOOD, CALIFORNIA

PREPARED FOR:  
 U.S. Environmental  
 Protection Agency  
 Region IX  
 San Francisco, California

PREPARED BY:  
**TN** & Associates, Inc.  
 & A Engineering and Science

SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 04/23/07

DESIGNED: JW & GN

DRAWN: CBG

CHECKED: JW

DRAWING

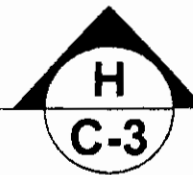
C-3

REV

16

# TRENCH CROSS SECTION

NOT TO SCALE



8. NEW PAVEMENT AND BASE IS OF THE SAME TYPE AND THICKNESS AS THE EXISTING PAVEMENT WHICH WAS REMOVED, BUT IN NO CASE IS IT LESS THAN INDICATED.

9. ALL PIPE SHALL BE COVERED WITH A MINIMUM OF 6 INCHES OF SAND OR PIPE EMBEDMENT, BEFORE BACKFILLING WITH NATIVE MATERIAL.

## TRENCH DETAILS

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** **T N & Associates, Inc.**  
Engineering and Science

SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 03/08/07

DESIGNED: JW & GN

DRAWN: DC

CHECKED: JW

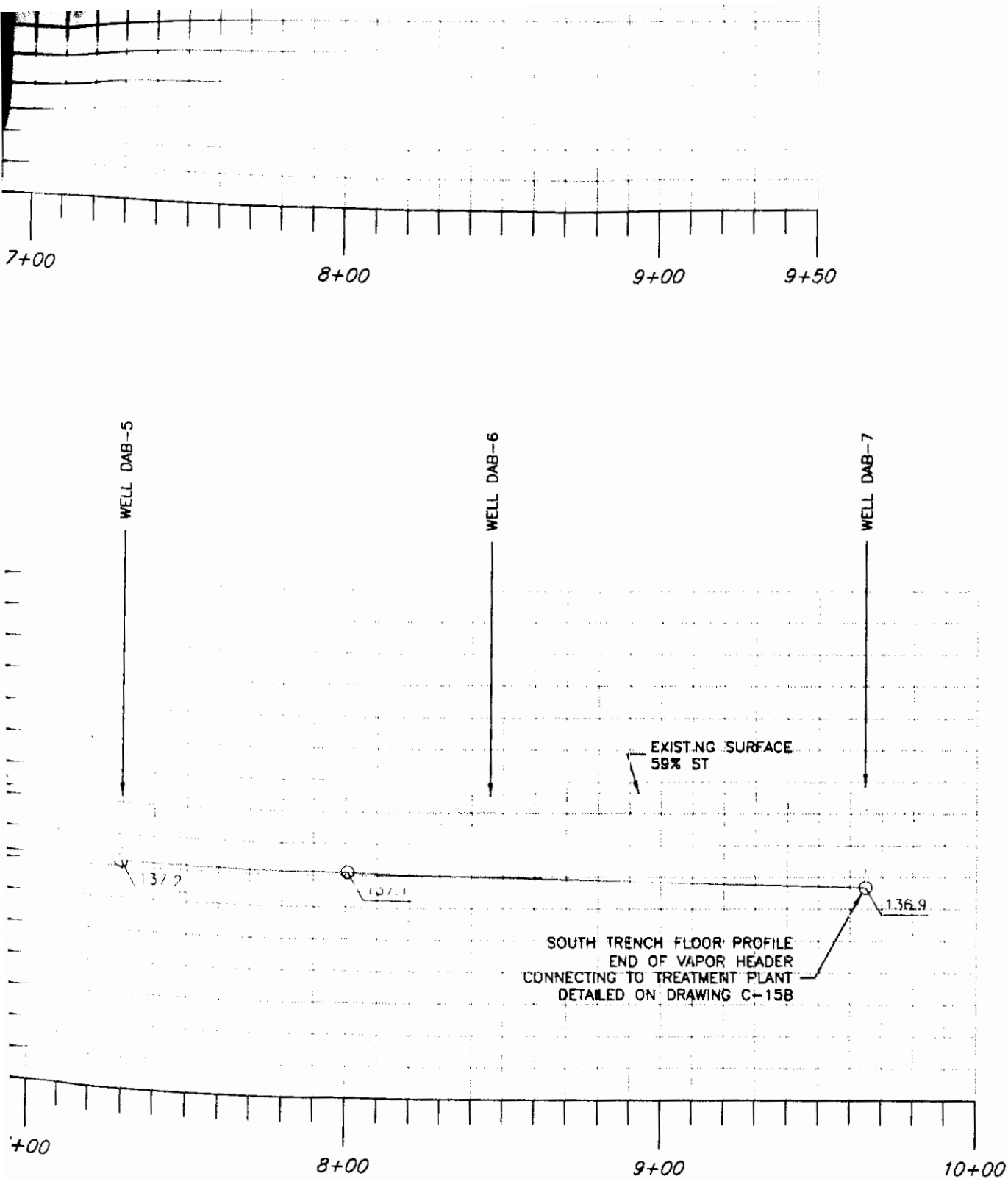
DRAWING

C-4

REV

9

AS-BUILT



AS-BUILT

## PIPE/TRENCH ELEVATION PROFILES

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:

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Engineering and Science

SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 03/08/07

DESIGNED: JW & GN

DRAWN: DC

CHECKED: JW

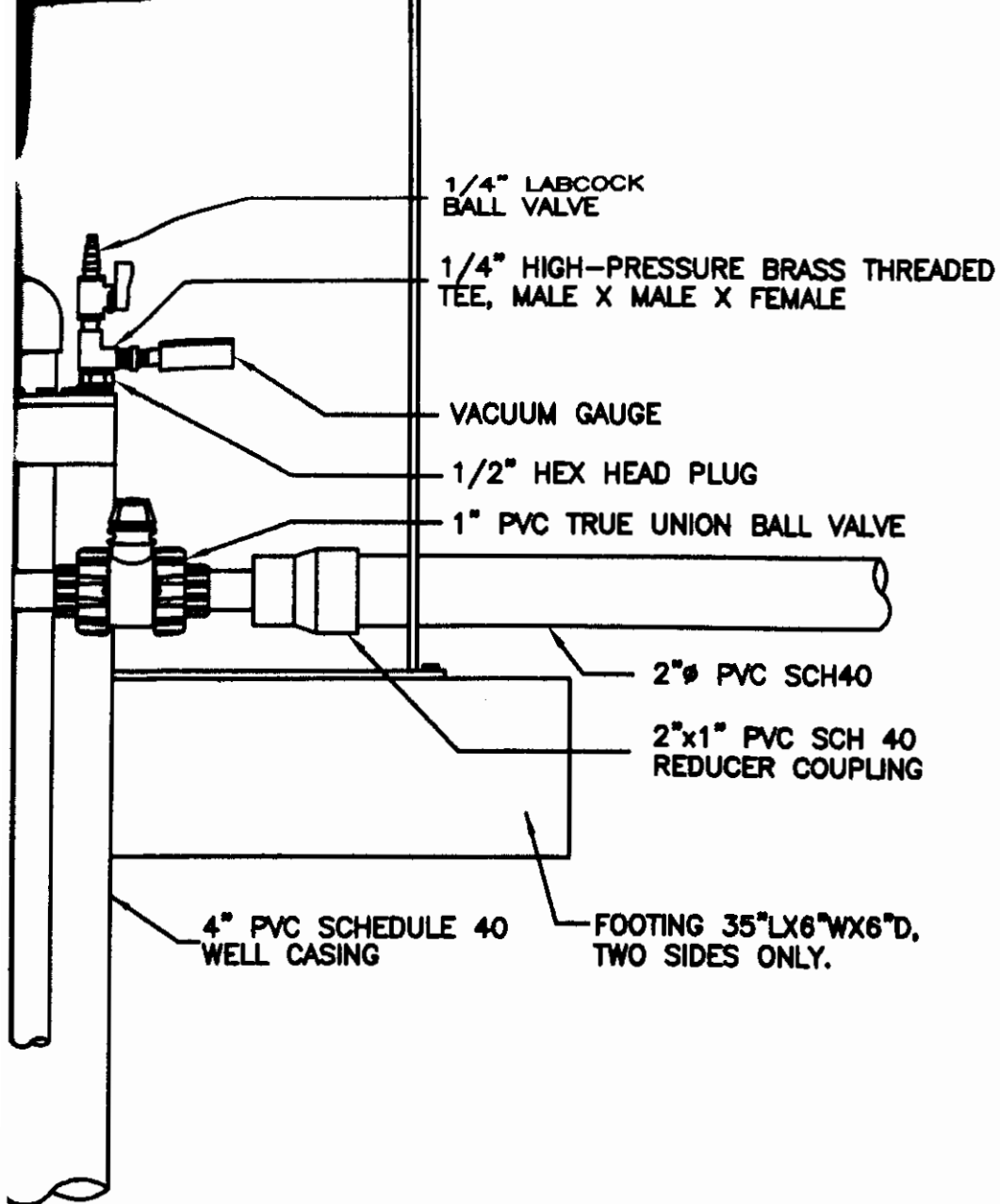
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REV

C-5

6

SFUND RECORDS CTR  
2278834 (8 of 36)



## WELL VAULT PROFILE

6" 12"  
SCALE IN INCHES

AS-BUILT

## PERCHED ZONE WELL SECTION AND DETAILS

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 04/23/07

DESIGNED: JW & GN

DRAWN: CBG

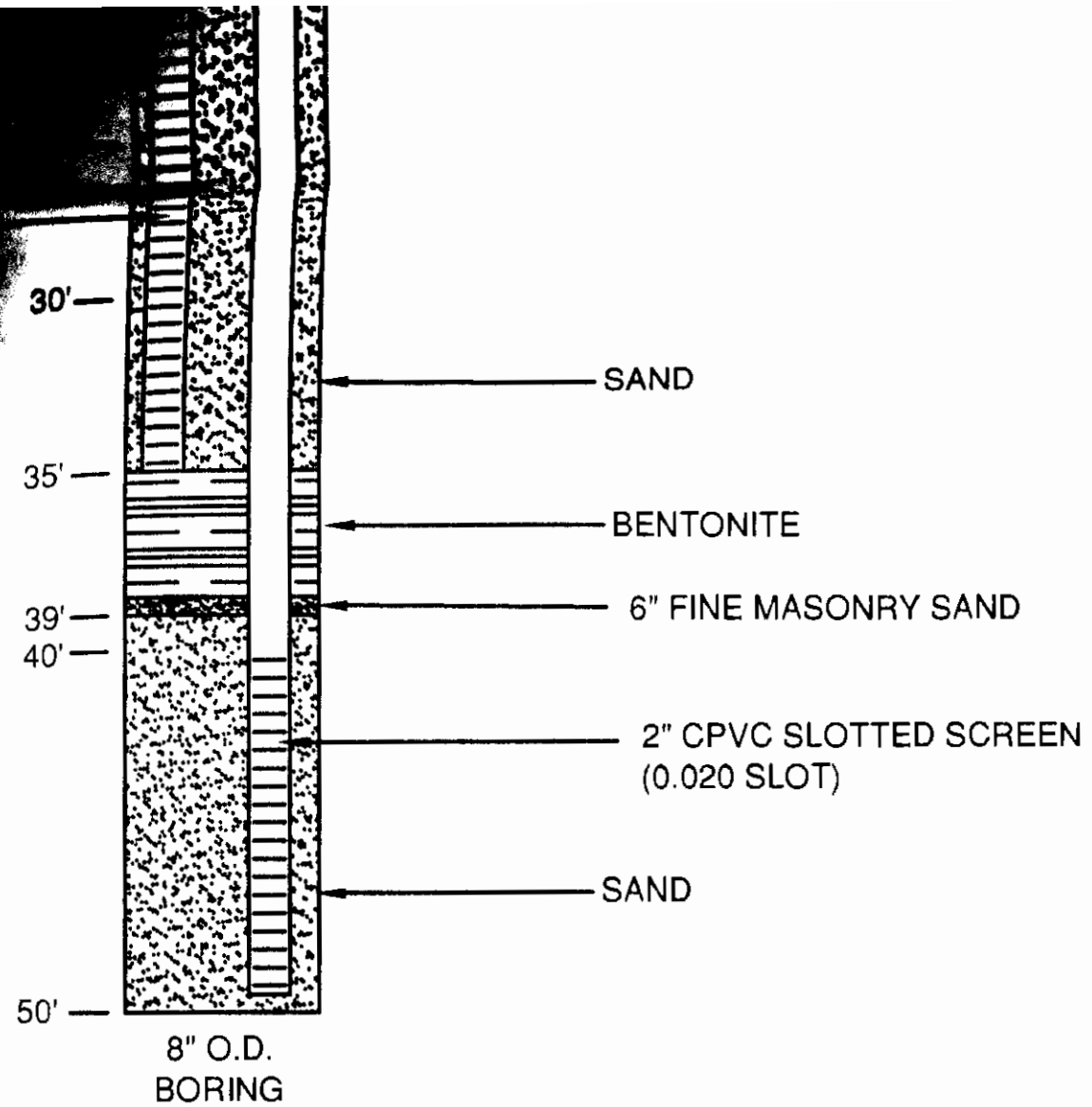
CHECKED: JW

DRAWING

REV

C-6

8



**LOCATED TRS AND TN&A VR WELLS  
(TYPICAL 10 LOCATIONS)**  
NOT TO SCALE

AS-BUILT

**LOWER VADOSE ZONE  
WELL SECTION AND DETAILS**

**PEMACO SUPERFUND SITE**  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN

APPROVED

DATE: 5/23/07

DESIGNED: JW & GN

**FINAL**

DRAWING

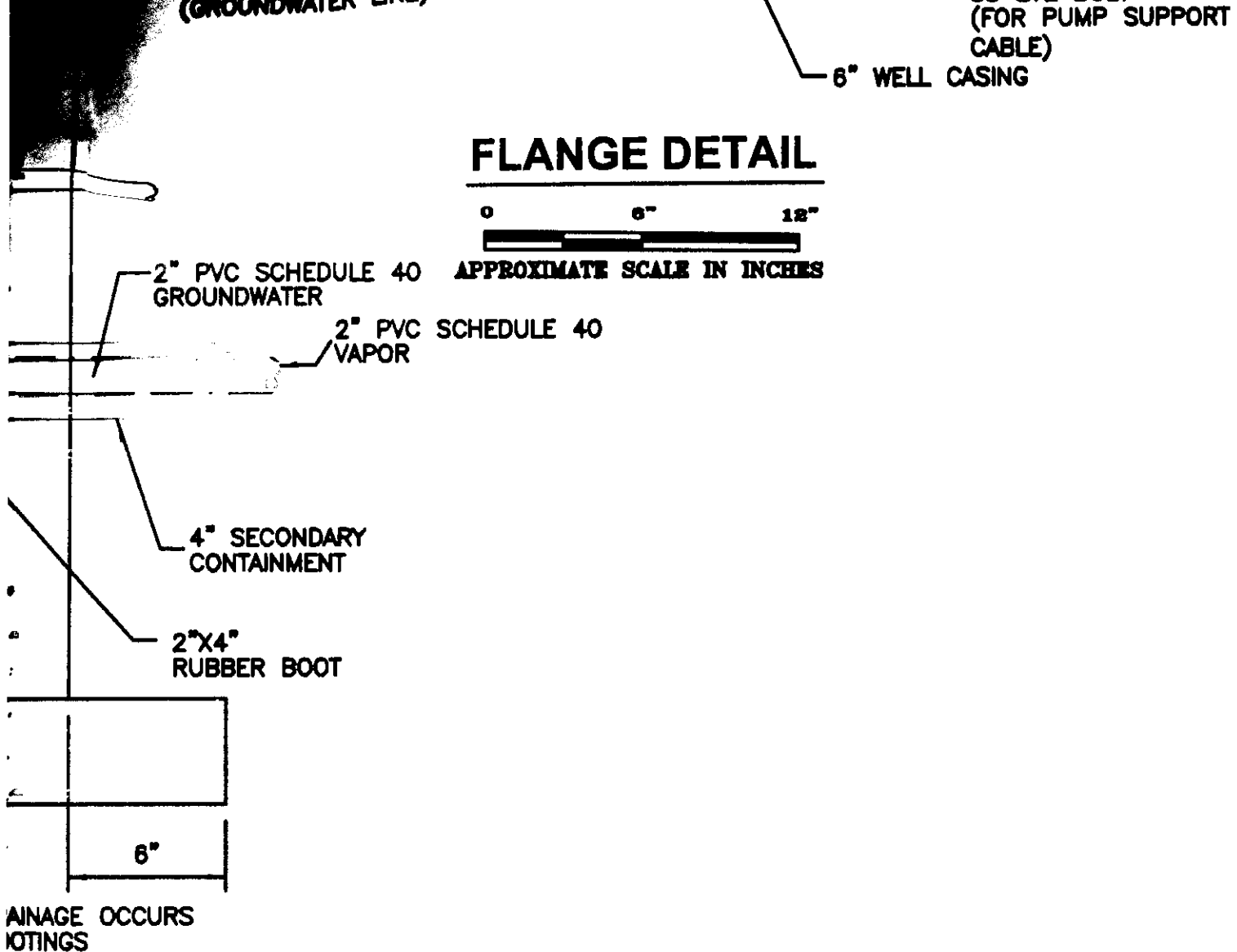
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CHECKED: JW

REV

C-7


1



EXPOSITION ZONE WELL SECTION AND DETAILS

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
 JACOB & HEFFNER ASSOCIATES  
ENGINEERS - GEOTECHNICAL - ENVIRONMENTAL  
15375 BARRANCA PARKWAY, SUITE 4-101  
IRVINE, CALIFORNIA 92618  
PHONE: (949) 453-1045

SCALE: AS SHOWN

APPROVED

DATE: 07/19/2007

DESIGNED: JW & GN

AS BUILTS

DRAWING

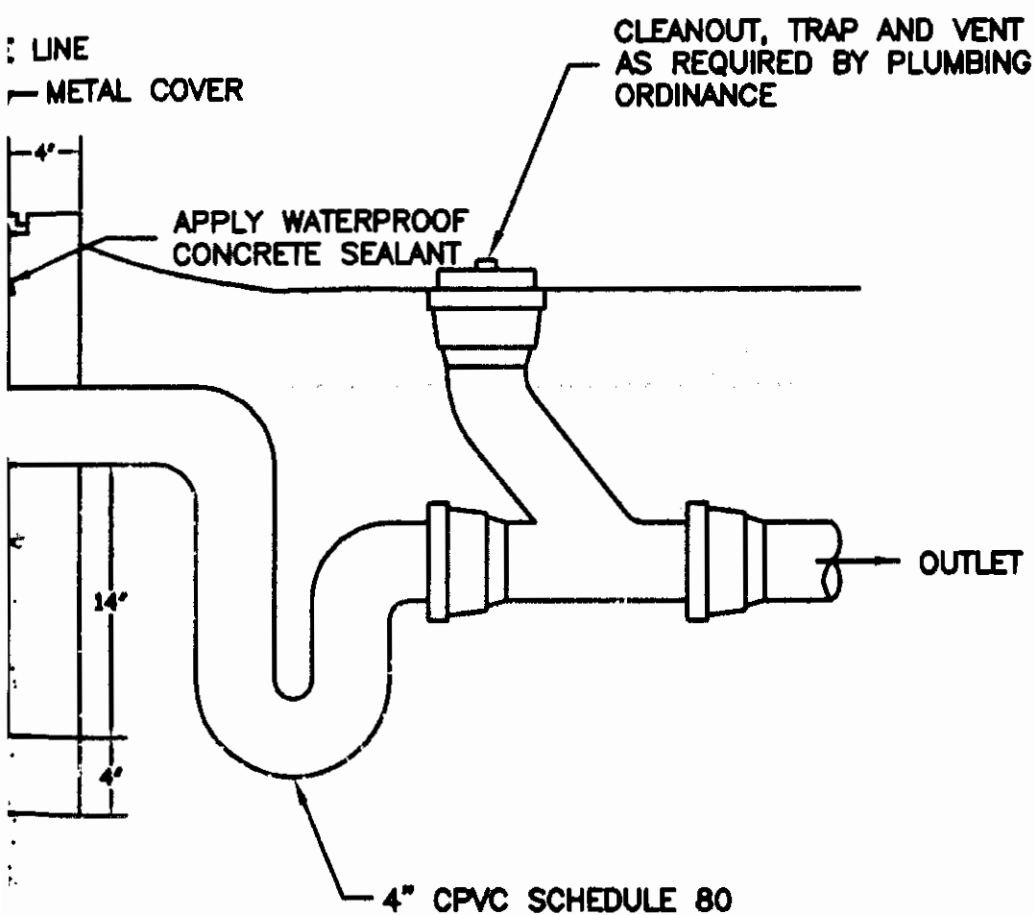
DRAWN: CBG & JBP

CHECKED: JW

C-8

AS-BUILT






AS-BUILT

## MISCELLANEOUS PIPE DETAILS

**PEMACO SUPERFUND SITE**  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
 **JACOB & NEFF ASSOCIATES**  
ENGINEERS - GEOTECHNICAL - ENVIRONMENTAL  
15375 BURNBACH PARKWAY, SUITE 4-101  
IRVINE, CALIFORNIA 92618  
PHONE: (949) 453-1045

SCALE: AS SHOWN

DESIGNED: JW & PV  
DRAWN: CBG & JEP  
CHECKED: JW

APPROVED  
**AS BUILTS**

DATE: 07/19/2007

DRAWING

C-9

**NOTE:**


\* DPE-B HAS A DECICATED  
LINE TO DIAPHRAM PUMP,  
P-102.

**CONDENSATE SUMP DETAIL**

**PEMACO SUPERFUND SITE**  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:

 **JACOB & NEFF ASSOCIATES**  
ENGINEERING • SURVEYING • ENVIRONMENTAL  
16370 BARNICA PARKWAY, SUITE 401  
BIRDE, CALIFORNIA 92518  
PHONE: (949) 463-1046

SCALE: AS SHOWN

APPROVED

DATE: 06/14/2007

**AS BUILTS**

DRAWING

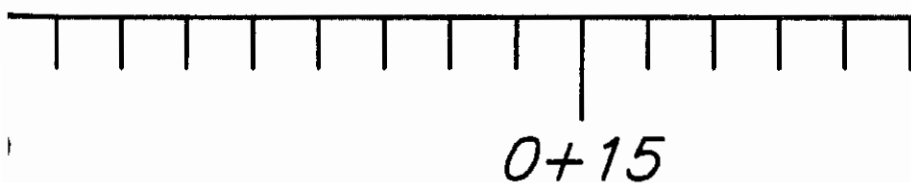
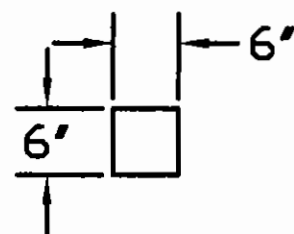
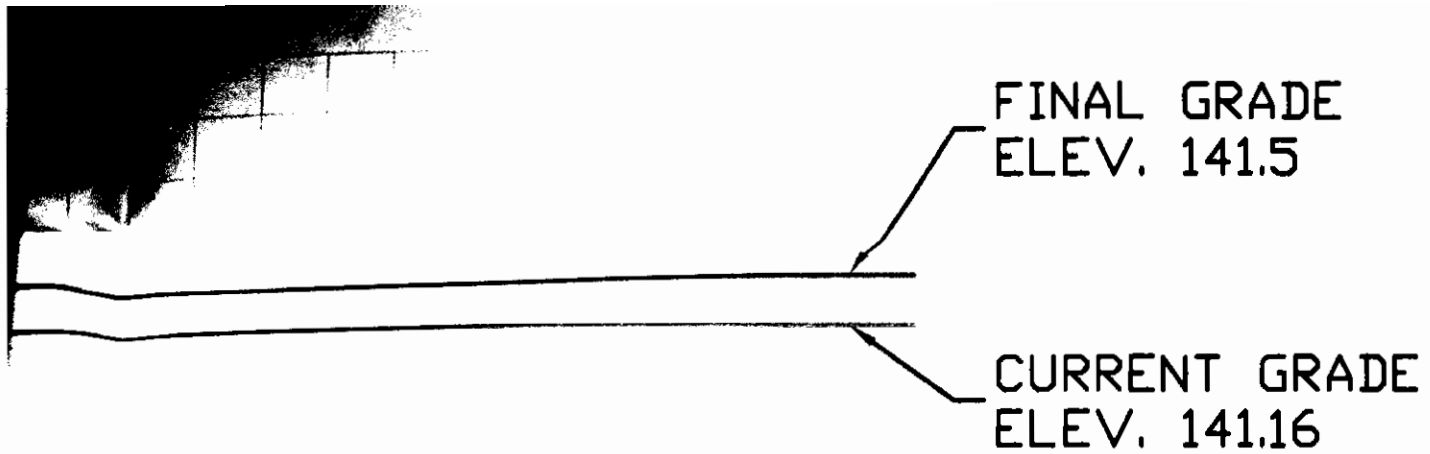
DESIGNED: JW & DC

DRAWN: DC & JBP

CHECKED: JW

**C-10A**

**AS-BUILT**



PROFILE

AS-BUILT

### CONDENSATE SUMP ELEVATION PROFILES

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN

APPROVED  
FINAL

DATE: 03/16/07

DESIGNED: JW

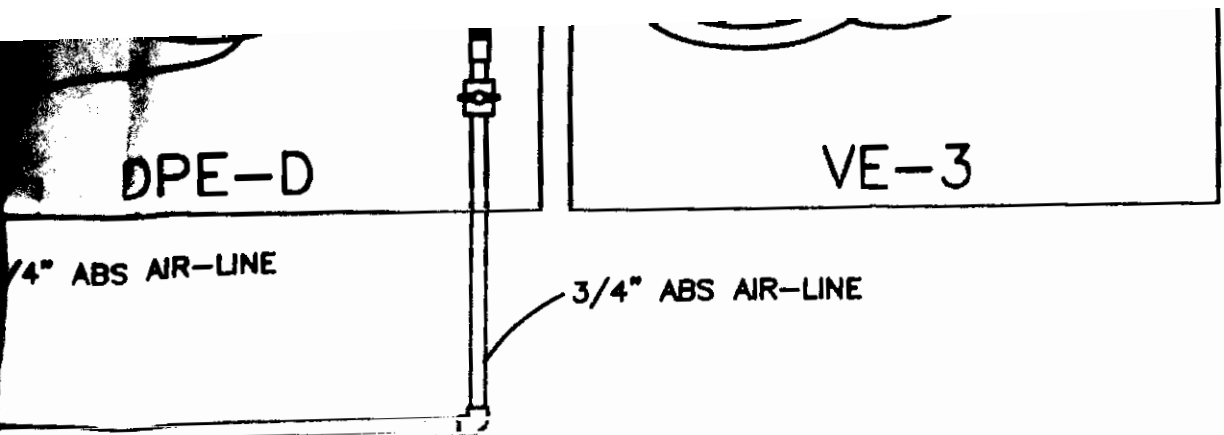
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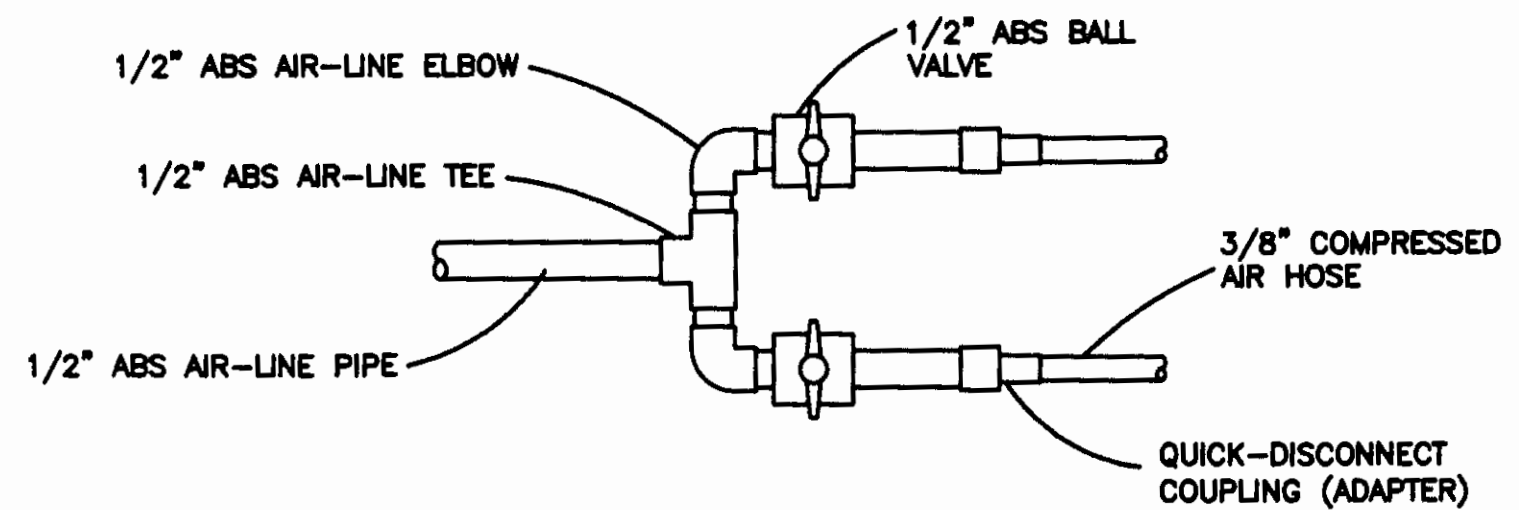
FIGURE

C-10B

REV  
5



2 COMPRESSED AIR MANIFOLD  
(NOT TO SCALE)



AS-BUILT

CONDENSATE SUMP MANIFOLD DETAIL

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN	APPROVED <b>FINAL</b>	DATE: 07/08/07
DESIGNED: JW & DC		DRAWING
DRAWN: DC		C-10C
CHECKED: JW		REV 6

	SCH 40 PVC 90° ELBOW	SCH 40 PVC
EA	3/4" SCH 40 PVC COUPLING	SCH 40 PVC
EA	PRESSURE REGULATOR FOR PUMP AIR SUPPLY	TYP
FT	3/4" ABS AIR SUPPLY PIPE	ABS
EA	3/4" ABS AIR-LINE TEE	ABS
EA	3/4" ABS AIR-LINE 90° ELBOW	ABS
EA	3/4" ABS AIR-LINE COUPLING	ABS

## CONDENSATE SUMP RETROFIT DETAIL

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN

APPROVED

DATE: 06/05/07

DESIGNED: JW & DC

**DRAFT**

DRAWING

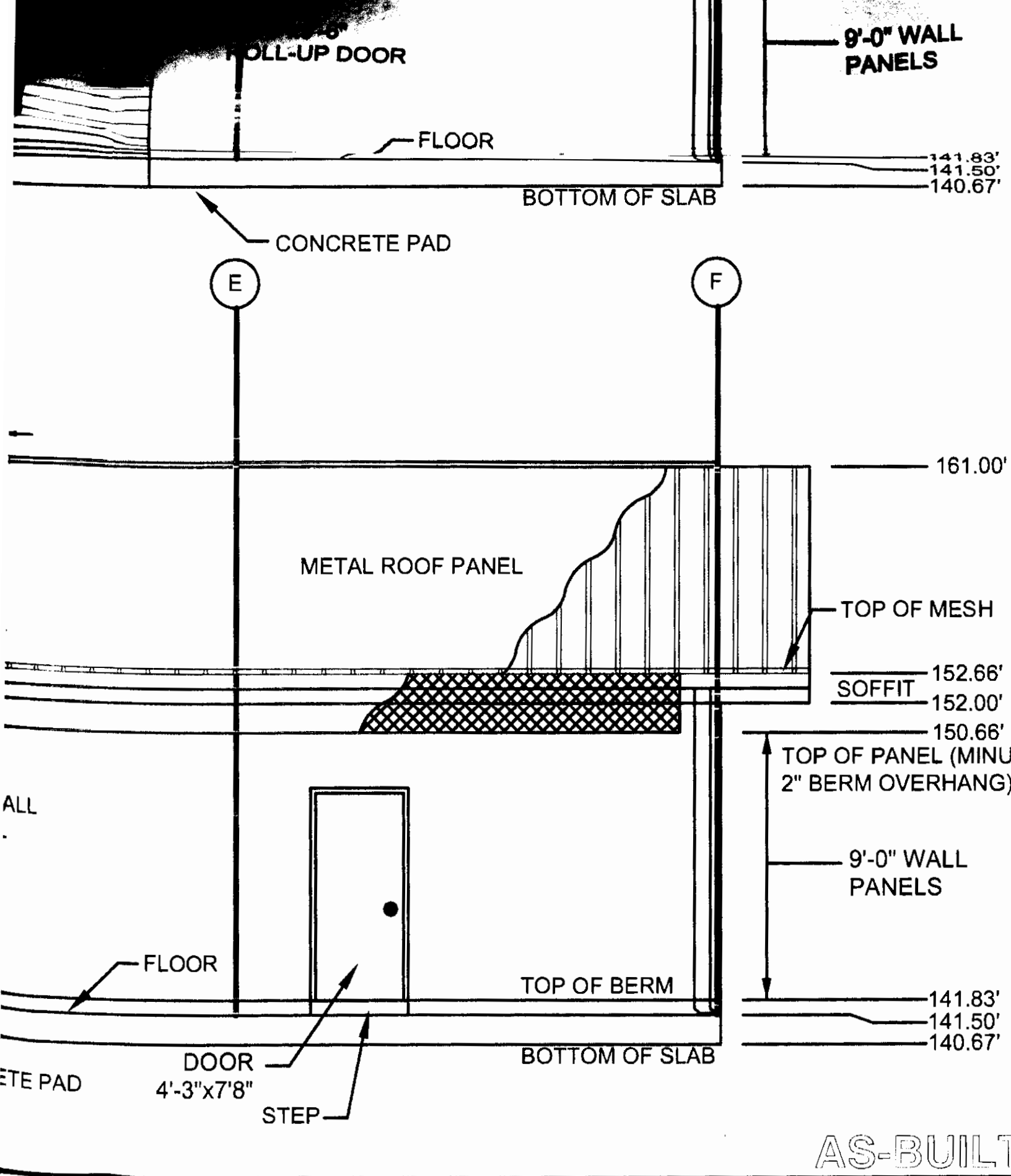
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CHECKED: JW

C-10D

REV  
1

AS-BUILT



THE ELECTRIC ROOM AND THE CONTROL ROOM. THE BUILDING SUPPLIER SHALL COORDINATE FOR MOTOR SIZE WITH THE BUYER. THE WALL OPENINGS SHALL BE LOUVERD, EXCEPT FOR THE AC UNIT.



## TREATMENT COMPOUND ELEVATIONS

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:

**TN & A** T N & Associates, Inc.  
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SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 03/08/07

DESIGNED: JW & GN

DRAWN: CBG

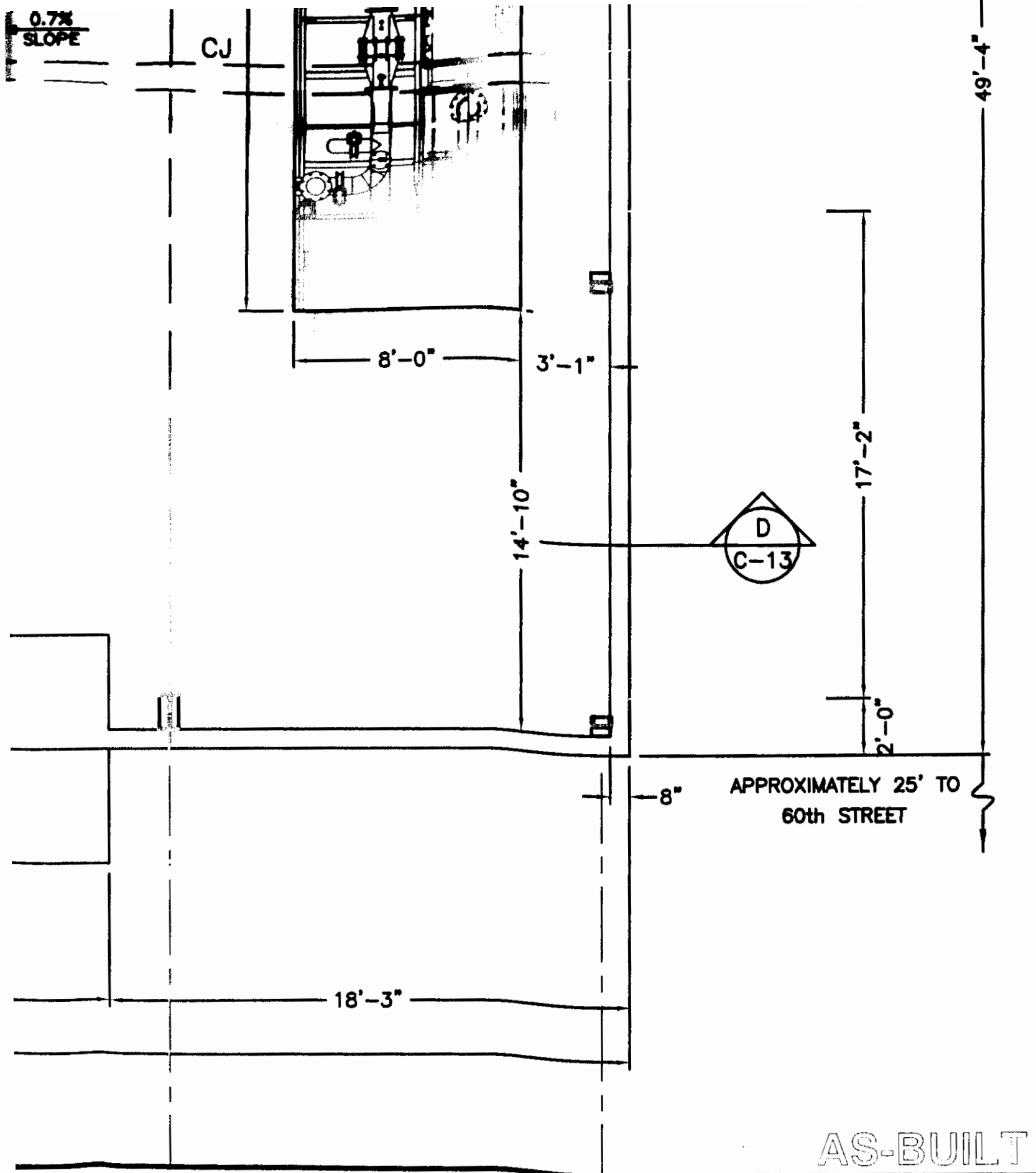
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DRAWING

C-11

REV

10



TO EXIST  
CONSTRUCTION.



# TREATMENT COMPOUND PLAN

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN  
DESIGNED: JW & GN  
DRAWN: DC  
CHECKED: JW

APPROVED  
**FINAL**

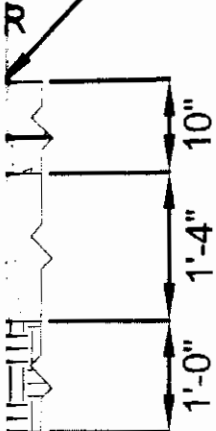
DATE: 08/14/07  
DRAWING  
C-12  
REV  
10

BENEATH THE FOUNDATION SLAB.

**D**  
SECTION AT CURB  
**C-12**

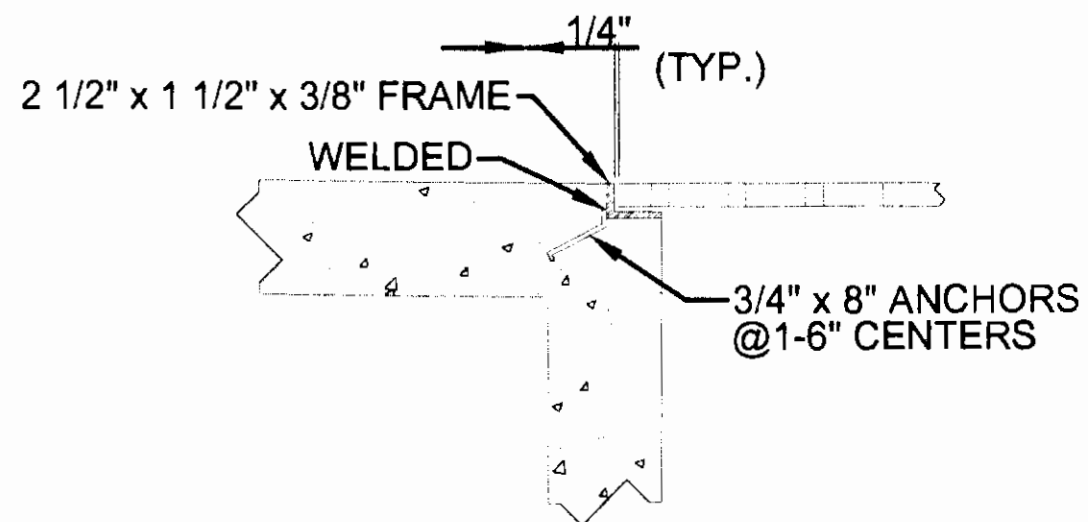
TING  
8"

R  
CONCRETE PAD



**NOTE 1**  
TRENCH IS SLOPED  
1% TOWARD SUMP

IN



**G**  
SECTION AT TRENCH AND SUMP FRAME  
**C-12**

AS-BUILT

**TREATMENT COMPOUND SECTIONS**

**PEMACO SUPERFUND SITE**  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

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U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 03/08/07

DESIGNED: LP

DRAWN: CPL

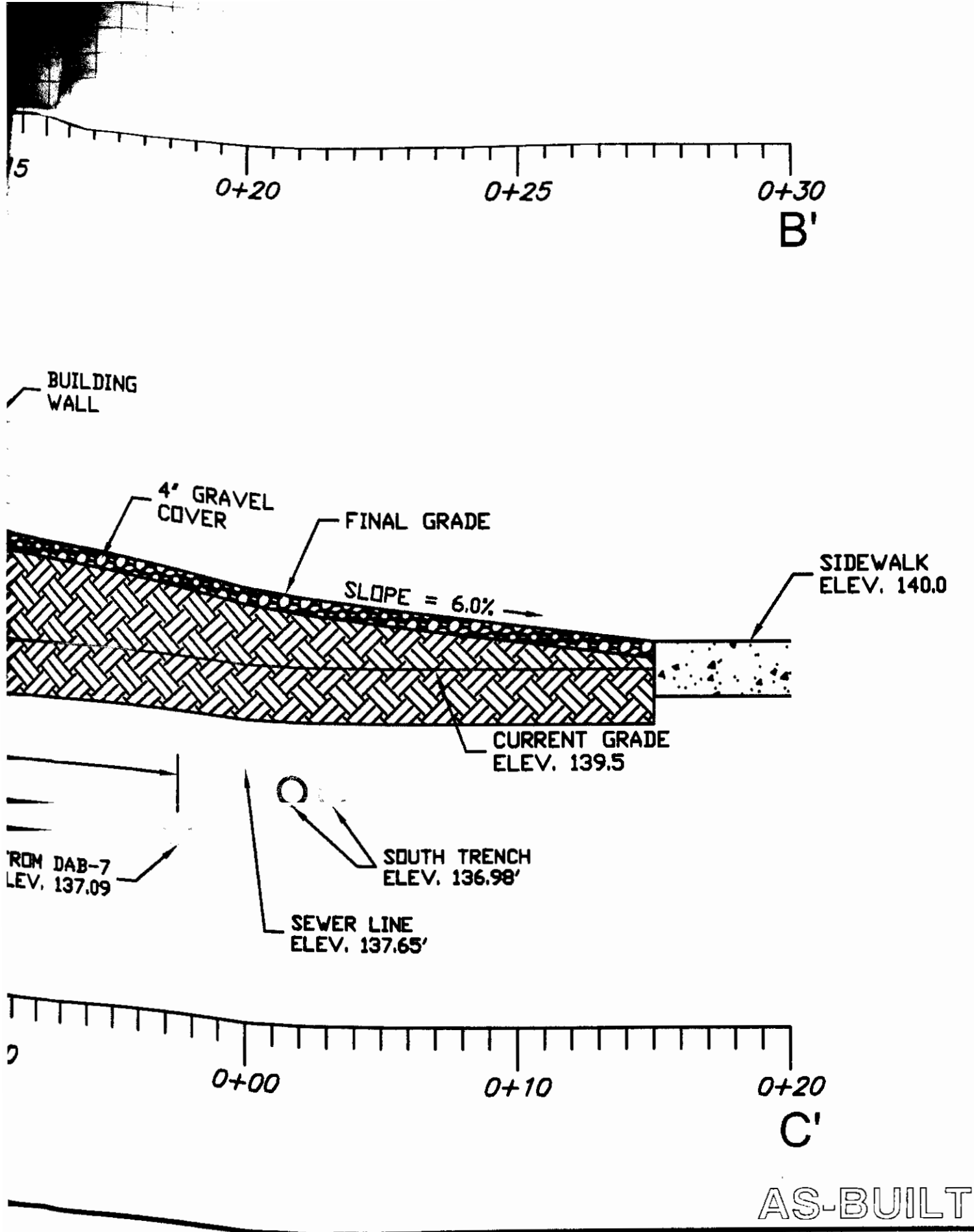
CHECKED: JW

DRAWING

C-13

REV  
7

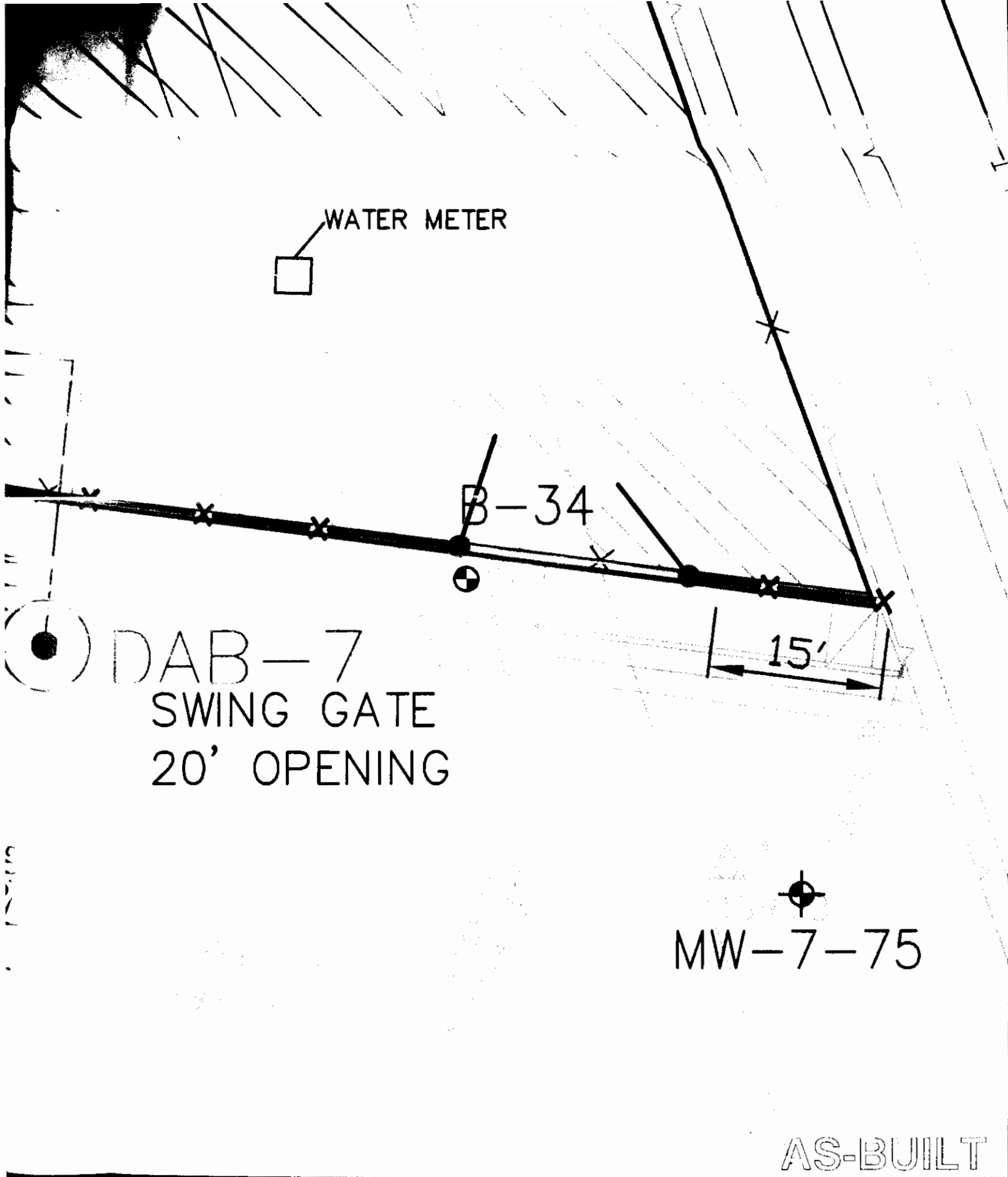




# TREATMENT COMPOUND SUBSLAB PROFILE

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: <b>TN &amp; A</b> T N & Associates, Inc. Engineering and Science	
SCALE: AS SHOWN	APPROVED FINAL	DATE: 05/23/07	DRAWING REV C-15B 4
DESIGNED: JW DRAWN: DC CHECKED: JW			



## EXISTING UTILITIES:

WATER LINE  
SEWER LINE  
GAS LINE

## NOTES:

1. REFER TO DRAWING C-14 FOR ALL PENETRATION DETAILS.
2. REFER TO DRAWING C-15B FOR SUBSLAB PROFILE.
3. TREATMENT SYSTEM CONTRACTOR SHALL COORDINATE INSTALLATION OF THE EIGHT CONDENSATE SUMPS WITH "AS-BUILT" PIPING LAYOUT.



## TREATMENT COMPOUND CONNECTION PLAN

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:

**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN

APPROVED  
FINAL

DATE: 04/23/07

DESIGNED: JW & DC

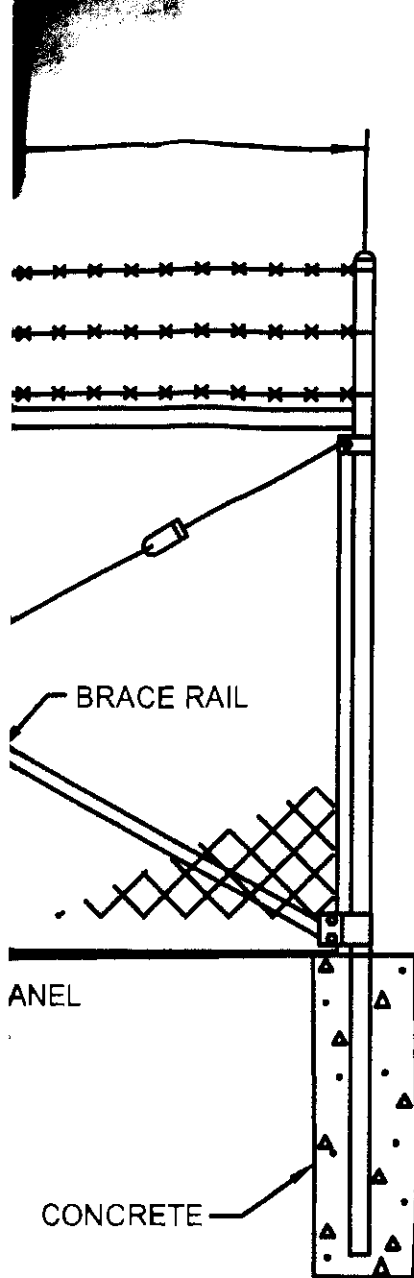
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CHECKED: JW

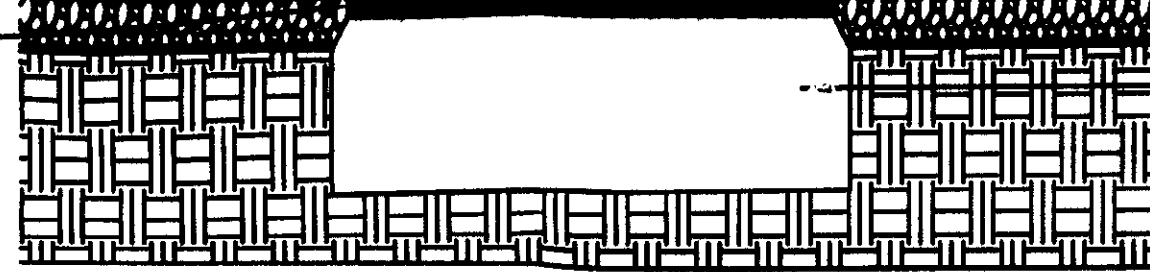
DRAWING

C-15C

REV  
6



3" TOTAL ASPHALT  
PAVEMENT THICKNESS



6" Aggregate Base Course

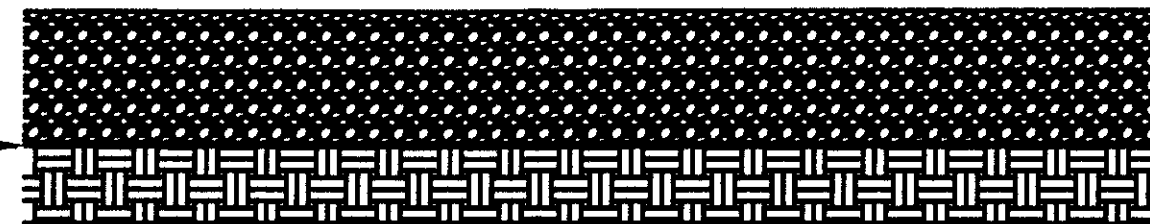
Compacted Subgrade

## Asphalt Surface Detail

Note:

1. Aggregate Base Course shall be compacted to 95% relative compaction.

Weed Barrier Geotextile



4" Gravel Cover

Compacted Subgrade

## Gravel Surface Detail

### FENCE AND SURFACE PAVEMENT DETAILS

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency

San Francisco, California

PREPARED BY:



T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN

APPROVED

DATE: 03/14/07

DESIGNED: JW & DC

FINAL

DRAWING

DRAWN: DC

CHECKED: JW

C-16

REV

5

AS-BUILT

ELEV. 15'

ELEV. 14'

**NOTES:**

1. ALL STEEL FITTINGS TO BE SCHEDULE 40.
2. CONNECTIONS MAY BE WELDED OR THREADED.
3. SAMPLE PORT SPOOL WILL BE DELIVERED WITH TOP AND BOTTOM FLANGE ATTACHED.

ELEV. 14'

ELEV. 14'

ELEV. 14'

PEMACO EXHAUST STACK DESIGN			
PEMACO SUPERFUND SITE 5050 EAST SLAUSON AVENUE MAYWOOD, CALIFORNIA			
PREPARED FOR: U.S. Environmental Protection Agency  San Francisco, California		PREPARED BY: <b>TN &amp; A</b> T N & Associates, Inc. Engineering and Science	
SCALE: AS SHOWN	APPROVED FINAL		DATE: 03/19/07
DESIGNED: JW & DC			DRAWING C-17 REV 7
DRAWN: DC			
CHECKED: JW			

WHERE  
DRAWN

SHEET NO. WHERE  
SECTION IS DRAWN

WHERE THERE IS A DETAIL

SYMBOL WHERE THERE IS A DETAIL

IT NO. WHERE  
IS A DETAIL

SHEET NO. WHERE  
SECTION IS TAKEN

WHERE DETAIL IS DRAWN

SYMBOL WHERE SECTION IS DRAWN

DETAIL SYMBOL

SECTION SYMBOL

AS-BUILT

- SV SOLVED VALVE
- SW SWITCH
- SWR SWITCHGEAR
- TD TIME DELAY ON CLOSING
- TEL TELEPHONE
- TO TIME DELAY ON OPENING
- TV TWINNED
- TYP TYPICAL
- UG UNDERGROUND
- V VOLTS
- VFD VARIABLE FREQUENCY DRIVE
- W WIRE
- WP WEATHERPROOF
- XP EXPLOSION PROOF
- XTMR TRANSFORMER


NOTES:

- 1. THIS IS A STANDARD LEGEND. SOME SYMBOLS AND ABBREVIATIONS MAY NOT APPEAR ON THE DRAWINGS.
- 2. THE WIRING DIAGRAMS, QUANTITY AND SIZES OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUS BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS
- 3. SWITCHGEAR AND MCC COMPARTMENT DESIGNATIONS AS INDICATED BELOW:  
  
BLANK: NOT INTENDED FOR USE. PLATE ONLY  
  
SPACE: CONTAINS NECESSARY BUS AND HARDWARE FOR FUTURE ADDITION OF BREAKERS OR STARTERS WITHIN SIZE RANGE SHOWN  
  
SPARE: CONTAINS A COMPLETE BREAKER OR STARTER INSTALLED, SIZE AS INDICATED FOR FUTURE USE

ELECTRICAL LEGEND

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

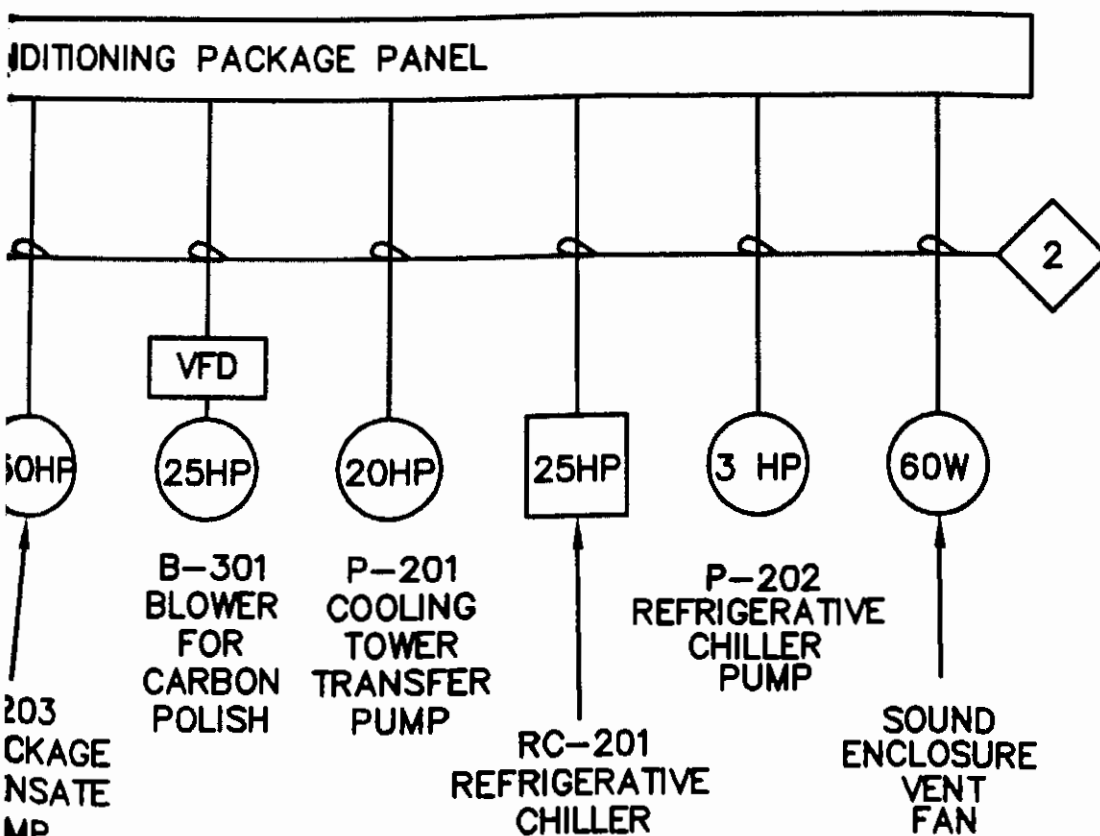
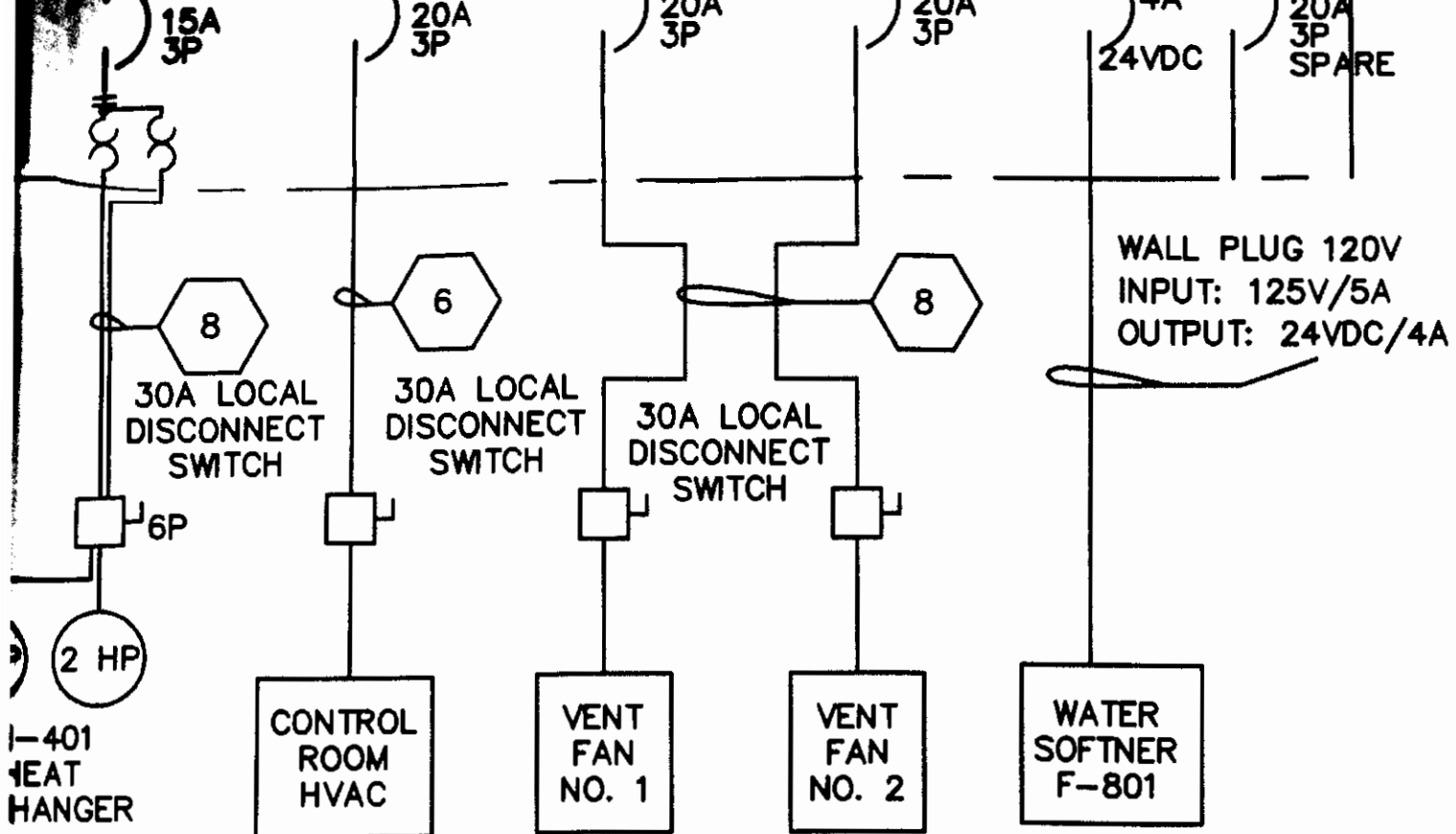
PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
 JACOB & HEWNER ASSOCIATES  
ENGINEERS - CONSULTANTS - ENVIRONMENTAL  
15375 BAYVIEW PARKWAY, SUITE 401  
BIRME, CALIFORNIA 92618  
PHONE: (949) 453-1045

SCALE: AS SHOWN  
  
DESIGNED: JS  
DRAWN: CPL  
CHECKED: JW

APPROVED  
AS BUILTS

DATE: 06/13/07  
DRAWING  
  
E-1



DESIGN/BUILD SPECIFICATIONS TO BE PROVIDED TO AND APPROVED BY THE ENGINEER PRIOR TO INSTALL.

9. FINAL DESIGN OF VAPOR CONDITIONING PACKAGE AND ELECTRICAL DEMAND SHALL BE DETERMINED BY TREATMENT SYSTEM CONTRACTOR.

## PLAN NOTES:

1. THESE CONNECTIONS ARE INCLUDED AS PART OF THE RESPECTIVE SKIDS.
2. THESE CONNECTIONS ARE INCLUDED BY THE VAPOR CONDITIONING PACKAGE PROVIDER.

## ELECTRICAL SINGLE LINE DIAGRAM

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:

JACOB & BEPNER ASSOCIATES  
ENGINEERING - SURVEYING - ENVIRONMENTAL  
15375 BARRANCA PARKWAY, SUITE 4-101  
IRVINE, CALIFORNIA 92618  
PHONE: (949) 453-1048

SCALE:

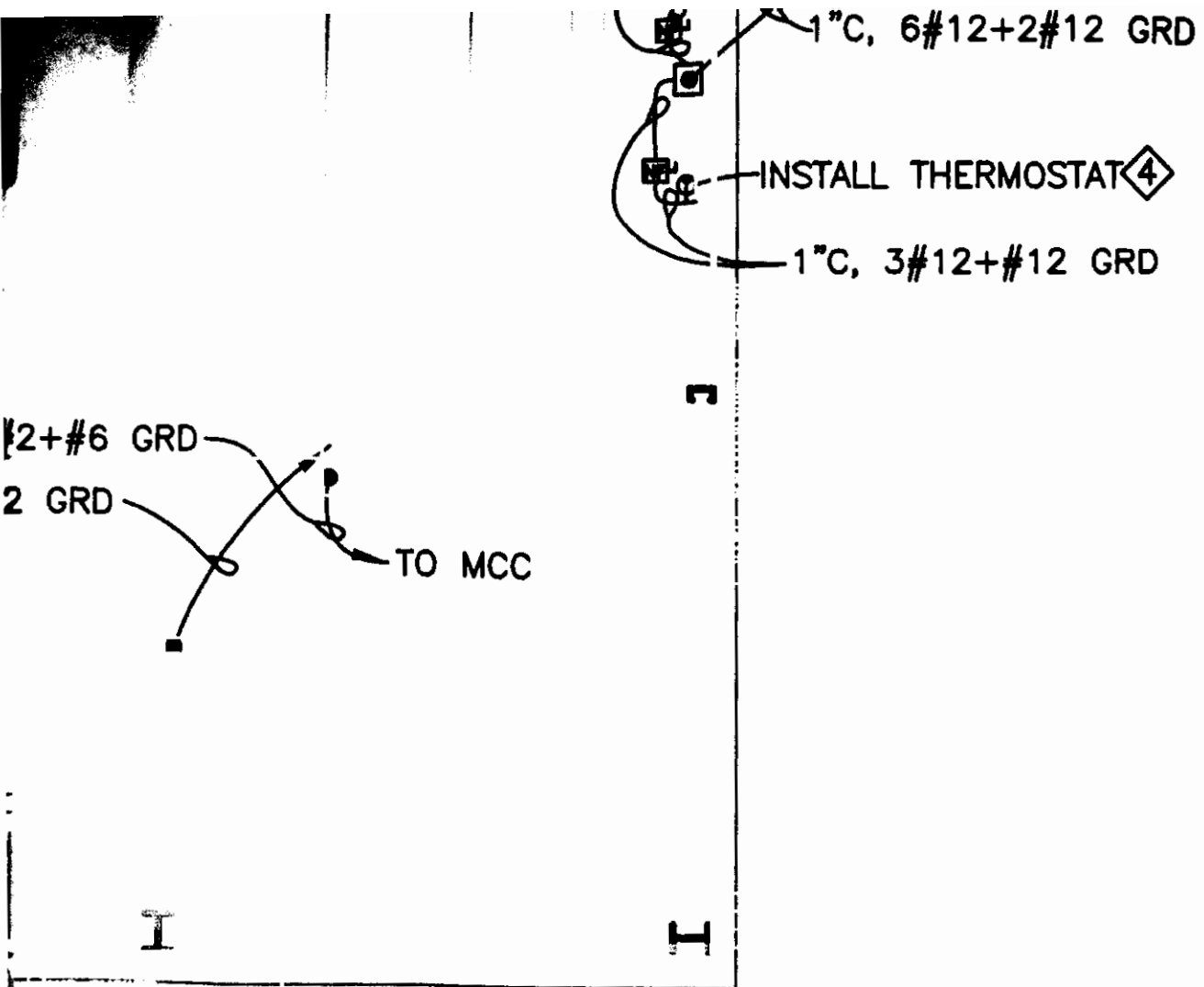
DESIGNED: J.S.  
DRAWN: C.E.L. & J.B.P.  
CHECKED: J.S. & J.W.

APPROVED  
AS BUILTS

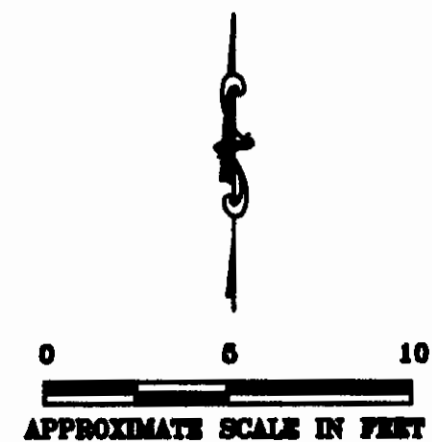
DATE: 05/29/2007

DRAWING

E-2



2 TRENCH DETAIL  
E-3




## TREATMENT COMPOUND ELECTRICAL PLAN

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:

 **JACOB & HEPPER ASSOCIATES**  
ENGINEERS - SCIENTISTS - ENVIRONMENTAL  
15375 BAYVIEW PARKWAY, SUITE 401  
IRVINE, CALIFORNIA 92618  
PHONE: (949) 453-1040

SCALE: AS SHOWN

APPROVED

DATE: 06/13/2007

AS BUILTS

DRAWING

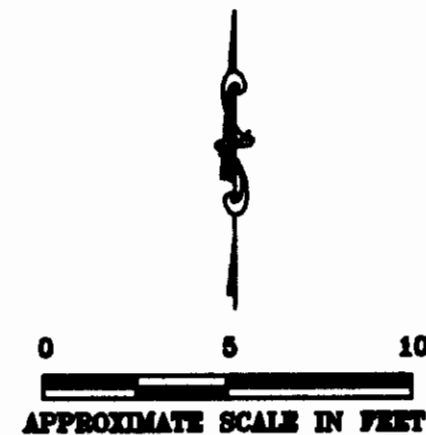
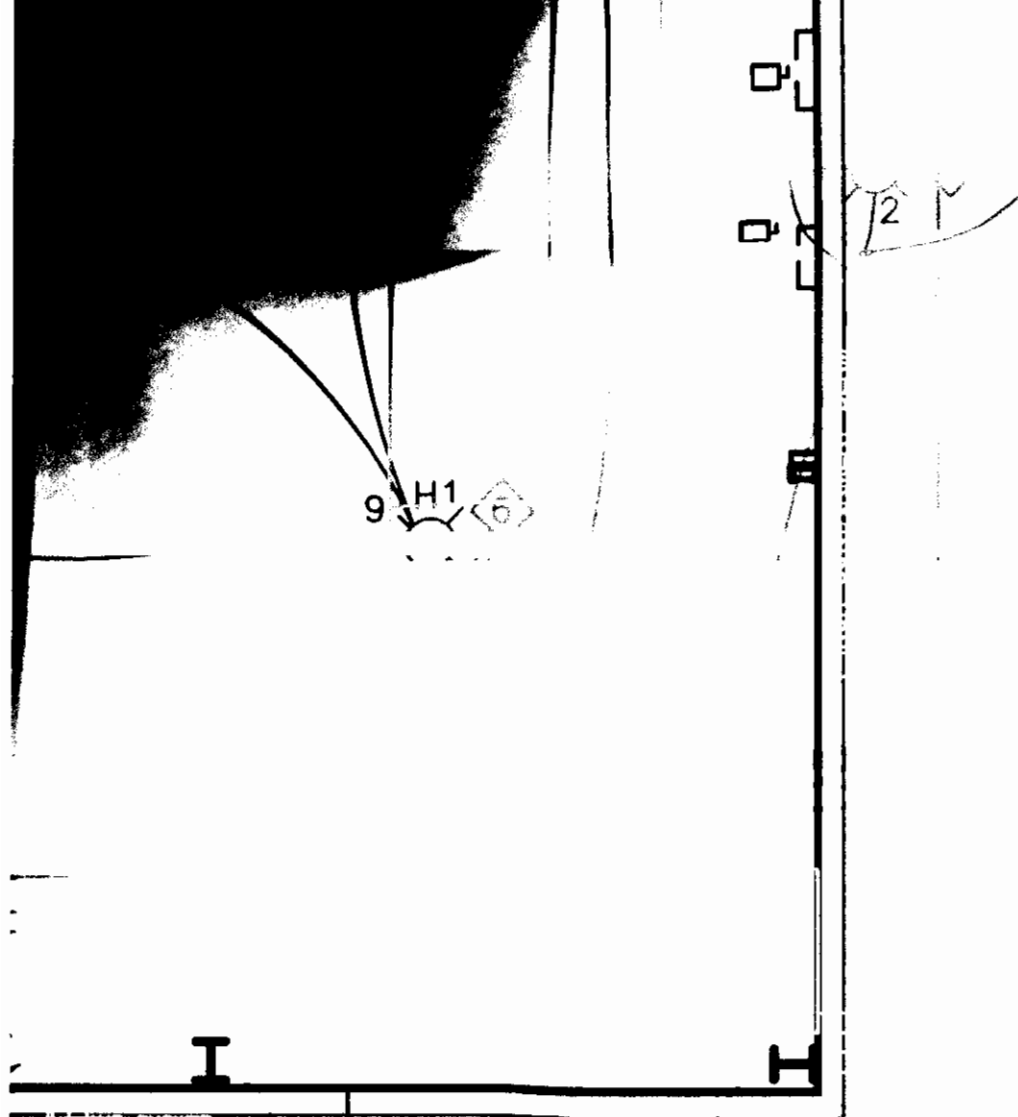
DESIGNED: J.S.

DRAWN: CPL

CHECKED: J.W.

E-3


AS-BUILT



# MISCELLANEOUS ELECTRICAL SECTIONS

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
 **JACOB & HEFFNER ASSOCIATES**  
ENGINEERS - ARCHITECTS - ENVIRONMENTAL  
15375 BURBANK PARKWAY, SUITE 4-101  
DANE, CALIFORNIA 92018  
PHONE: (949) 453-1045

SCALE: AS SHOWN

APPROVED

DATE: 08/13/2007

DESIGNED: J.S.

**AS BUILTS**

DRAWING

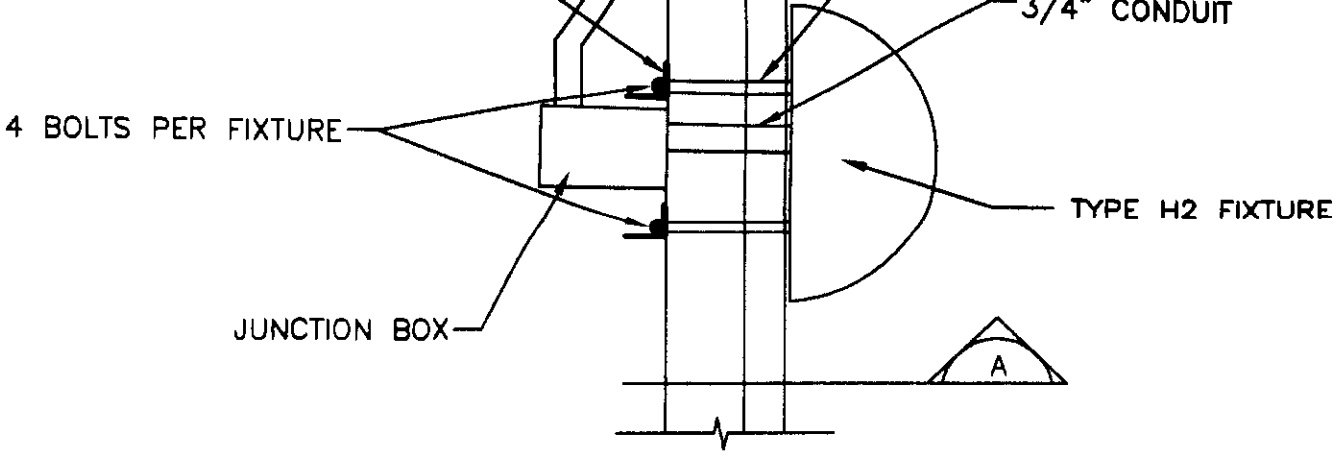
DRAWN: CFI

CHECKED: J.W.

E-4

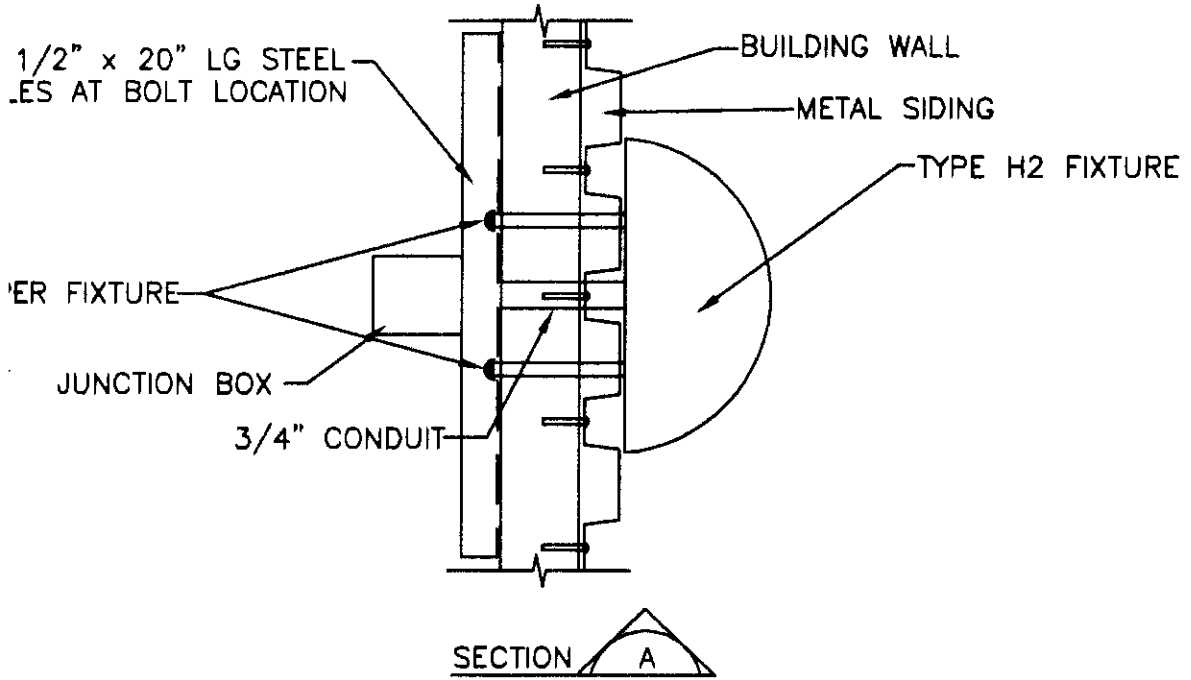
AS-BUILT





7  
E-5

FIXTURE TYPE H2 MOUNTING DETAIL




AS-BUILT

ELECTRICAL DETAILS

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
  
JACOB & NEFF ASSOCIATES  
ENGINEERS - ARCHITECTS - ENVIRONMENTAL  
15375 BARNICA PARKWAY, SUITE 41-101  
BARNICA, CALIFORNIA 92018  
PHONE (949) 453-1045

SCALE: AS SHOWN  
  
DESIGNED:  
DRAWN: DC. ARBEP  
CHECKED: J.W.

APPROVED  
**AS BUILTS**

DATE: 06/13/2007  
**DRAWING**  
  
E-5



**VICINITY MAP**  
NOT TO SCALE

REFERENCE DRAWING

<b>TITLE SHEET</b>			
<b>PEMACO SUPERFUND SITE</b> 5050 EAST SLAUSON AVENUE MAYWOOD, CALIFORNIA			
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: <b>TN &amp; A</b> T N & Associates, Inc. Engineering and Science	
SCALE: AS SHOWN DESIGNED: JW DRAWN: CPL CHECKED: JW	APPROVED <b>FINAL</b>		DATE: 08/15/07 DRAWING G-1 REV 11

ess a greater standard of  
e of the highest quality and  
are included in the "intent of

s (drawings) and specifications,  
, and are intended to convey the  
ed finished project for construction  
s or implied fiduciary duty or  
ction of the "intent of the work".  
each and every detail, which may  
k". Where the detail in the project  
tor to provide design/build  
c". The Contractor shall provide all  
Building Trades, Trade  
r Representatives, Licensed  
s, Building Codes construction  
and other Construction  
ch is necessary to provide all  
ls to complete the construction in

II underground and visible utilities  
have been disconnected or  
ls, utilities, drainage structures, to

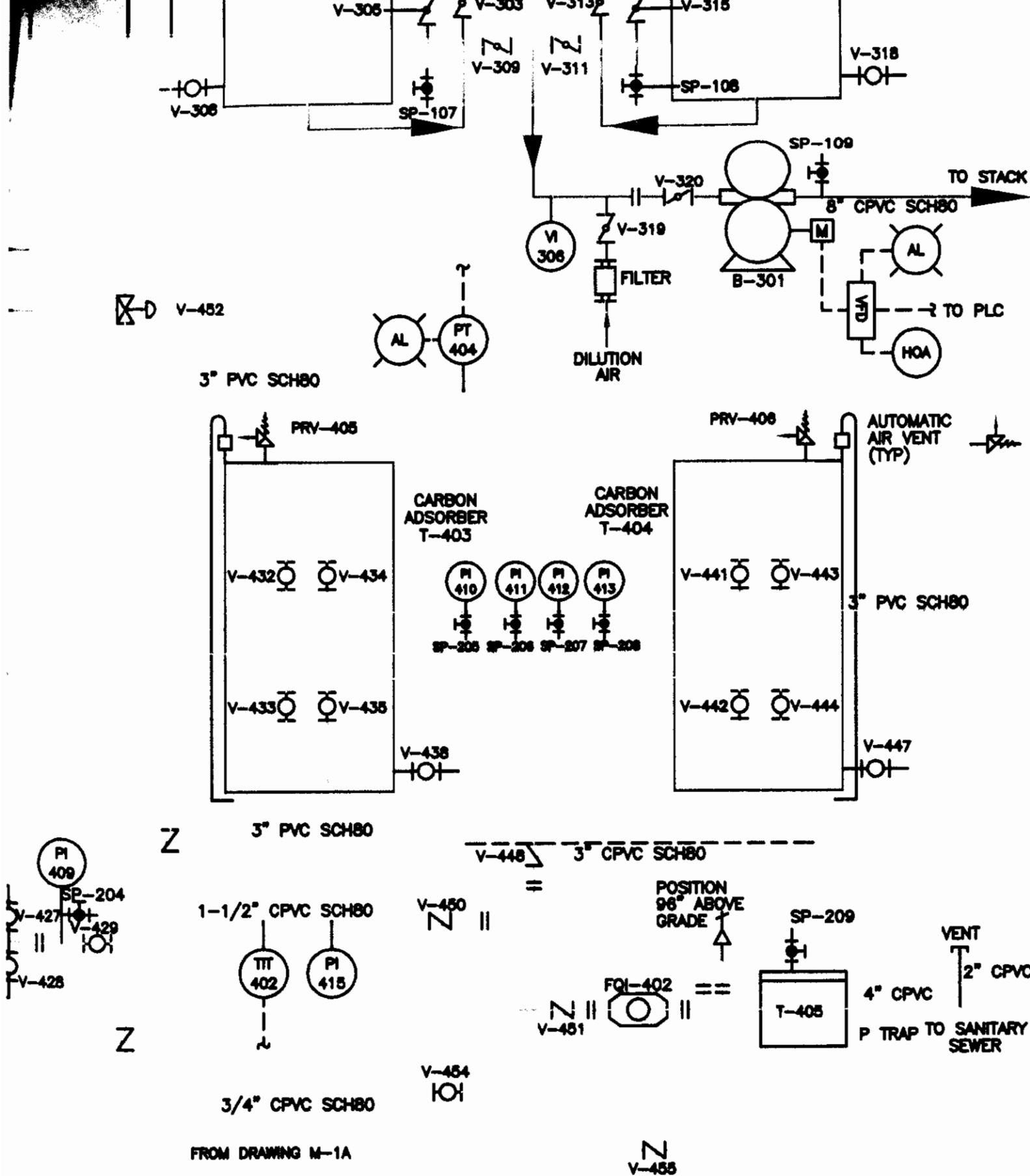
zed and maintained in a  
bris from work site and any

USACE's representative's own casual observance. The Contractor is responsible for the  
construction in accordance with the contract requirements.

8. All materials and work to be of first quality and to be performed in a manner approved by the  
USEPA and the USACE. Any damage occurred during construction shall be the  
responsibility of the Contractor to repair at no cost to the USEPA.
9. All work, including all items necessary to provide the "intent of the work" shall be  
unconditionally guaranteed by the Contractor for a minimum period of one year after  
completion and acceptance of the work. Express warranties and guarantees required herein  
are not to be construed to preclude remedies consistent with implied warranties for faulty  
construction as prescribed by applicable law.

REFERENCE DRAWING

GENERAL CONSTRUCTION NOTES			
PEMACO SUPERFUND SITE 5080 EAST SLAUSON AVENUE MAYWOOD, CALIFORNIA			
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: <b>TN &amp; A</b> T N & Associates, Inc. Engineering and Science	
SCALE: AS SHOWN	APPROVED <b>FINAL</b>	DATE: 01/16/08	REV 4
DESIGNED: JW		DRAWING G-2	
DRAWN: CPL CHECKED: JW			



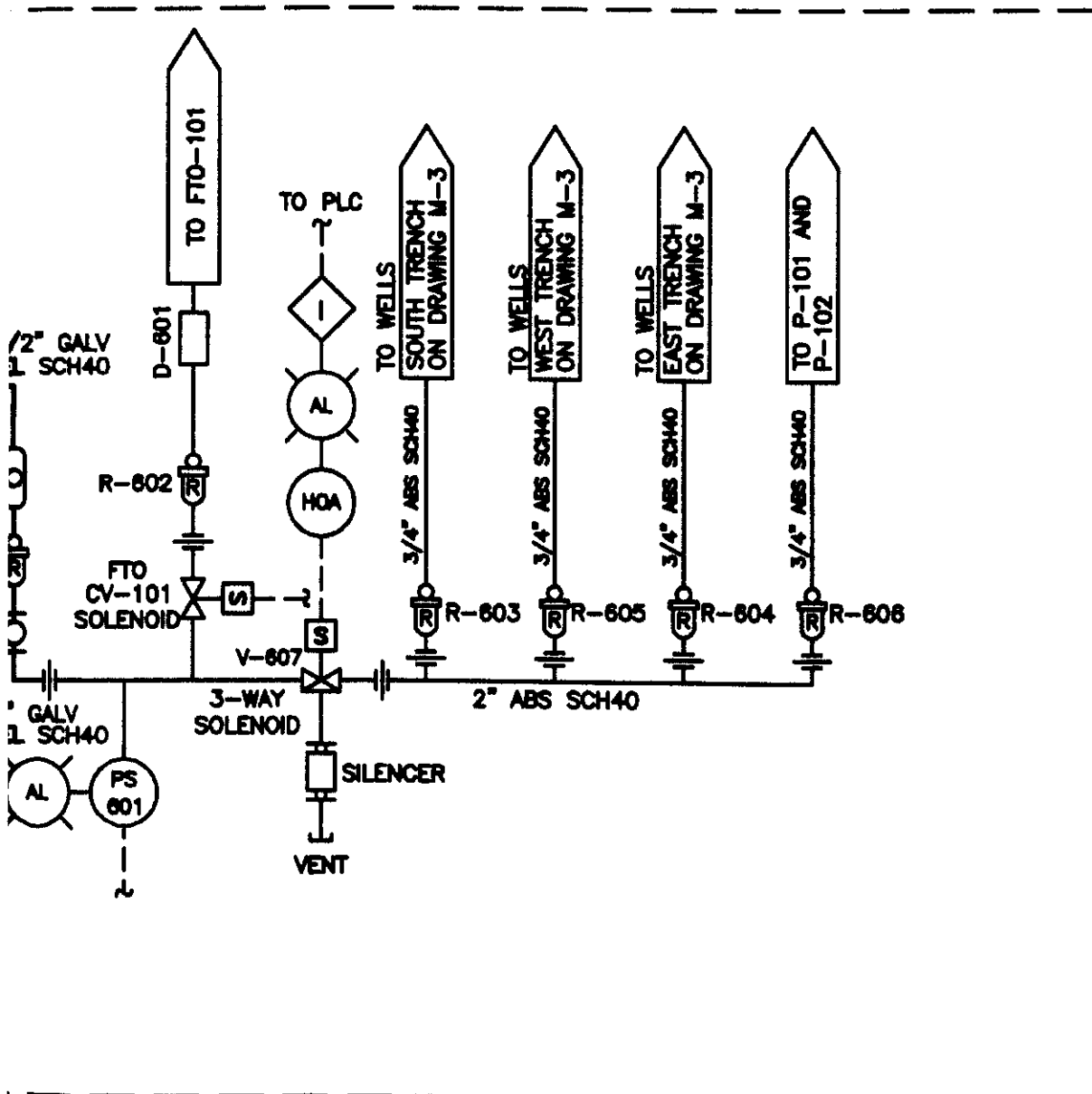
2. PLEASE SEE SPECIFICATION SECTION 13405 - PROCESS LOGIC CONTROL FOR PLC DESIGN, INTERLOCKS, ALARMS, AND CONTROL REQUIREMENTS AND SPECIFICATIONS.
3. INSTALLATION OF PIPING SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH ATTACHMENT 2 IN THE RFP AND SPECIFICATION SECTION 15400-PROCESS PIPING.
4. ALL ELECTRICAL WIRING SHALL CONFORM TO SPECIFICATION DIVISION 16 - ELECTRICAL.
5. CONTROL PANELS FOR EACH TREATMENT PROCESS SHALL BE DESIGNED AND POSITIONED ON THE EQUIPMENT IT CONTROLS BY THE MANUFACTURER.
6. TREATMENT EQUIPMENT SHALL BE PLACED IN ACCORDANCE WITH THE TREATMENT COMPOUND PROCESS LAYOUT ON DRAWING M-4.
7. ALL PIPING AND CONDUITS SHALL BE SUPPORTED, IN ACCORDANCE WITH LOCAL CODES, TO PREVENT SAGGING OR OVER-STRESSING OF THE PIPE AND CONNECTIONS. ALL PIPING SHALL BE SUPPORTED SO THAT NO LOAD OR STRESS IS TRANSFERRED TO ANY EQUIPMENT.
8. PROCESS PIPING SHALL BE LABELED WITH FLOW DIRECTION AND CONTENT AT ALL ABOVE GROUND VALVES.
9. WHERE PIPING IS ROUTED ABOVE GROUND (INSIDE THE COMPOUND) THE PIPING SHALL BE SUPPORTED BY UNISTRUT AND SHALL BE INSTALLED PER LOCAL CODE AND PIPE MANUFACTURER GUIDELINES.
10. UTILITY PIPING MUST BE INSTALLED PER LOCAL CODE.
11. ALL PROCESS PIPING BENEATH ROADS SHALL BE A MINIMUM OF SCHEDULE 40.
12. SECONDARY CONTAINMENT PIPING AND ELECTRICAL CONDUIT, WHERE REQUIRED, SHALL BE A MINIMUM OF SCHEDULE 40.
13. SUMP PUMP P-502 HOSES, ELECTRICAL, AND CONTROLS MUST BE CONFIGURED FOR QUICK REMOVAL FROM SECONDARY CONTAINMENT SUMP.
14. CAUSTIC PUMP P-901 WILL BE PROVIDED BY ANGUIL AND WILL BE INSTALLED BY CONTRACTOR AS PART OF THIS SCOPE.
15. FINAL DESIGN OF VAPOR CONDITIONING PACKAGE SHALL BE DETERMINED BY TREATMENT SYSTEM CONTRACTOR.

## GENERAL PIPING AND INSTRUMENTATION DIAGRAM

**PEMACO SUPERFUND SITE**  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: <b>JACOB &amp; NEFFNER ASSOCIATES</b> ENGINEERS - SCIENTISTS - ENVIRONMENTAL 15375 BAYVIEW PARKWAY, SUITE #101 IRVINE, CALIFORNIA 92618 PHONE: (949) 453-1045	
SCALE: AS SHOWN	APPROVED <b>AS BUILT</b>	DATE: 07/19/2007	
DESIGNED: MB, JW & LL		DRAWING  <b>M-1</b>	
DRAWN: DC & JBP			
CHECKED: JW			


AS-BUILT

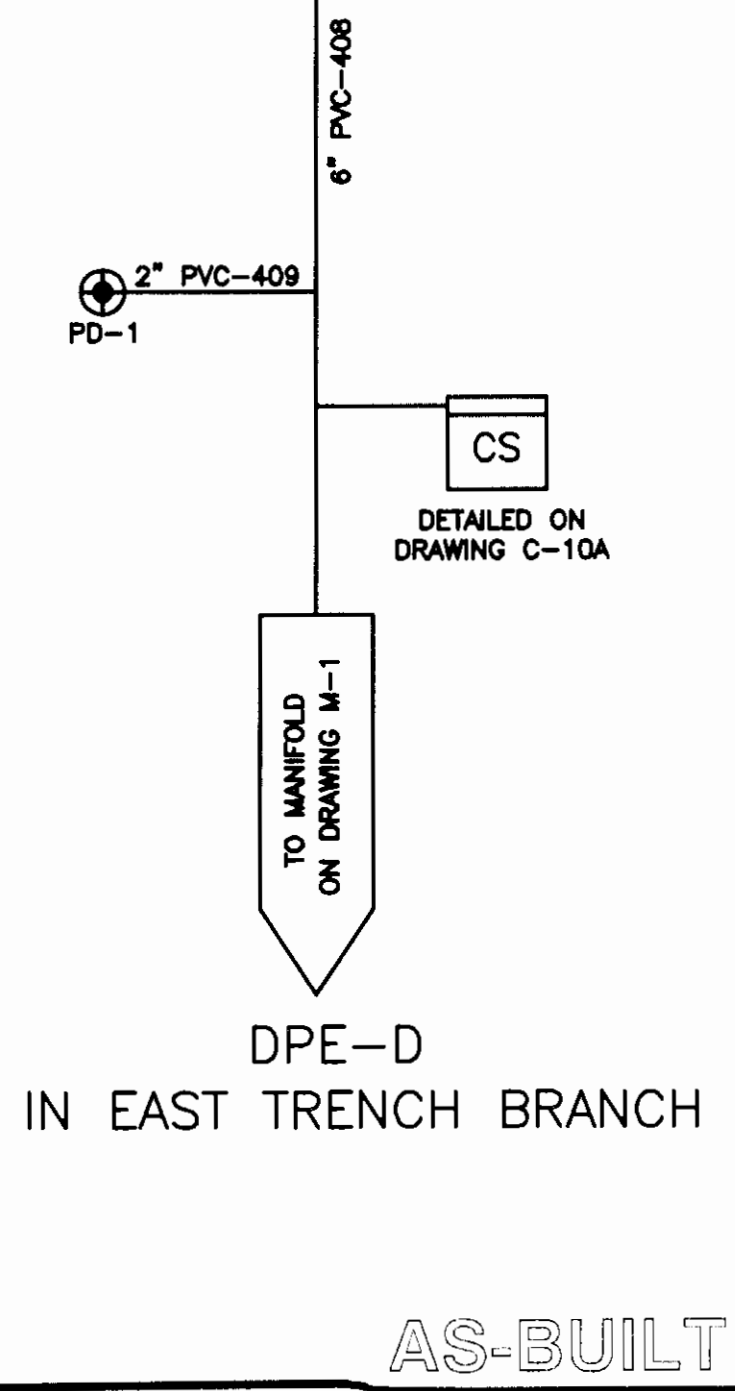


AS-BUILT

2. PLEASE SEE SPECIFICATION SECTION 13405 - PROCESS LOGIC CONTROL FOR PLC DESIGN, INTERLOCKS, ALARMS, AND CONTROL REQUIREMENTS AND SPECIFICATIONS.
3. INSTALLATION OF PIPING SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH ATTACHMENT 2 IN THE RFP AND SPECIFICATION SECTION 15400-PROCESS PIPING.
4. ALL ELECTRICAL WIRING SHALL CONFORM TO SPECIFICATION DIVISION 16-ELECTRICAL.
5. CONTROL PANELS FOR EACH TREATMENT PROCESS SHALL BE DESIGNED AND POSITIONED ON THE EQUIPMENT IT CONTROLS BY THE MANUFACTURER.
6. TREATMENT EQUIPMENT SHALL BE PLACED IN ACCORDANCE WITH THE TREATMENT COMPOUND PROCESS LAYOUT ON DRAWING M-4.
7. ALL PIPING AND CONDUITS SHALL BE SUPPORTED, IN ACCORDANCE WITH LOCAL CODES, TO PREVENT SAGGING OR OVER-STRESSING OF THE PIPE AND CONNECTIONS. ALL PIPING SHALL BE SUPPORTED SO THAT NO LOAD OR STRESS IS TRANSFERRED TO ANY EQUIPMENT.
8. PROCESS PIPING SHALL BE LABELED WITH FLOW DIRECTION AND CONTENT AT ALL ABOVE GROUND VALVES.
9. WHERE PIPING IS ROUTED ABOVE GROUND (INSIDE THE COMPOUND) THE PIPING SHALL BE SUPPORTED BY UNISTRUT AND SHALL BE INSTALLED PER LOCAL CODE AND PIPE MANUFACTURER GUIDELINES.
10. UTILITY PIPING MUST BE INSTALLED PER LOCAL CODE.
11. ALL PROCESS PIPING BENEATH ROADS SHALL BE A MINIMUM OF SCHEDULE 40.
12. SECONDARY CONTAINMENT PIPING AND ELECTRICAL CONDUIT, WHERE REQUIRED, SHALL BE A MINIMUM OF SCHEDULE 40.
13. FINAL DESIGN OF VAPOR CONDITIONING PACKAGE SHALL BE DETERMINED BY TREATMENT SYSTEM CONTRACTOR.

**GENERAL PIPING AND INSTRUMENTATION DIAGRAM**  
**VAPOR CONDITIONING PACKAGE & COMPRESSED AIR SYSTEM**  
**PEMACO SUPERFUND SITE**  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

	PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY:  JACOB & NEFF ASSOCIATES ENGINEERS - ARCHITECTS - ENVIRONMENTAL 16375 BARRICA PARKWAY, SUITE #1-101 IRVINE, CALIFORNIA 92618 PHONE: (949) 453-1040	
	SCALE: AS SHOWN		DATE: 07/19/2007	
	DESIGNED: <u>MEL JW &amp; LL</u> DRAWN: <u>DC &amp; JBP</u> CHECKED: <u>JW</u>		DRAWING  M-1A	
	APPROVED AS BUILTS			




6. ALL PROCESS PIPING SHALL BE SLOPED TOWARD THE TREATMENT COMPOUND, THE INTENT OF WHICH IS SHOWN IN DRAWING C-5. A SERIES OF CONDENSATE COLLECTION SUMPS SHALL BE LOCATED ADJACENT TO THE TREATMENT COMPOUND FOR EACH DPE PIPELINE.
7. REMOTE VAULTS ARE REQUIRED FOR WELLS PA-2 AND PB-6 IN ORDER TO CLEAR OBSTRUCTIONS. REMOTE VAULT LOCATIONS ARE SHOWN ON DRAWING C-3.

**PERCHED ZONE DPE P&ID**

**PEMACO SUPERFUND SITE**  
 5050 EAST SLAUSON AVENUE  
 MAYWOOD, CALIFORNIA

**PREPARED FOR:**  
 U.S. Environmental  
 Protection Agency  
 Region IX  
 San Francisco, California

**PREPARED BY:**  
 **T N & Associates, Inc.**  
 Engineering and Science

**SCALE:** AS SHOWN  
**DESIGNED:** JW & GN  
**DRAWN:** DC  
**CHECKED:** JW

**APPROVED**  
**FINAL**

**DATE:** 03/07/07  
**DRAWING**  
**REV**  
 M-2 7

**AS-BUILT**

6" SECONDARY CONT.

3" PVC-909

TO V102  
DRW M-1

6" SECONDARY CONT.

3" PVC-1015

TO V102  
DRW M-1

6" SECONDARY CONT.

3" CPVC-1113

TO V102  
DRW M-1

AS-BUILT

APPROXIMATE ERH TREATMENT AREA IS SHOWN ON DRAWING C-1.

3. REFER TO DRAWING C-3 FOR EXPOSITION ZONE WELL INSTALLATION SCHEDULE. FINAL DEPTH AND SCREEN INTERVALS SHALL BE DETERMINED BY THE INSTALLING GEOLOGIST OR ENGINEER BASED ON THE OBSERVED DEPTH OF THE TARGET INTERVAL.
4. REFER TO DRAWING C-8 FOR EXPOSITION ZONE WELL, WELLHEAD AND VAULT CONSTRUCTION DETAILS.
5. THE ERH CONTRACTOR SHALL SPECIFY THE LOCATION AND CONSTRUCTION DETAILS FOR ALL ERH VAPOR EXTRACTION WELLS AND RELATED FACILITIES. UTILITY STUB-UPS FOR THE ERH CONTRACTOR CONSIST OF TWO 8" VAPOR LINES, ONE 2" WATER LINE, AND 1.5" ELECTRICAL CONDUIT (NOT SHOWN).
6. EXTRACTION WELLS INSTALLED WITHIN THE ERH TREATMENT AREA SHALL BE CONSTRUCTED ACCORDING TO THE ERH CONTRACTOR'S SPECIFICATIONS.
7. REFER TO DRAWINGS C-2, C-3, C-4 AND C-5 FOR TRENCH CONSTRUCTION INFORMATION.
8. ALL PROCESS PIPING SHALL BE SLOPED TOWARD THE TREATMENT COMPOUND, THE INTENT OF WHICH IS SHOWN IN DRAWING C-5. A SERIES OF CONDENSATE COLLECTION SUMPS (NOT SHOWN) SHALL BE LOCATED ADJACENT TO THE TREATMENT COMPOUND FOR EACH VE PIPELINE. ADDITIONAL CONDENSATE COLLECTION SUMPS SHALL BE INSTALLED AT PIPELINE LOW POINTS, AS DESIGN/BUILD, BASED ON FINAL "AS-BUILT" GRADES.
9. COMPRESSED AIR LINES ARE NOT SHOWN ON THIS DRAWING BUT WILL BE INSTALLED AS SHOWN ON DRAWING C-4. ALL DIMENSION ARE 3/4".

**LOWER VADOSE & EXPOSITION ZONE  
GROUNDWATER AND VAPOR EXTRACTION PIPING P&ID**

**PEMACO SUPERFUND SITE**  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:



**T N & Associates, Inc.**  
Engineering and Science

SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 03/07/07

DESIGNED: JW & GN

DRAWN: DC

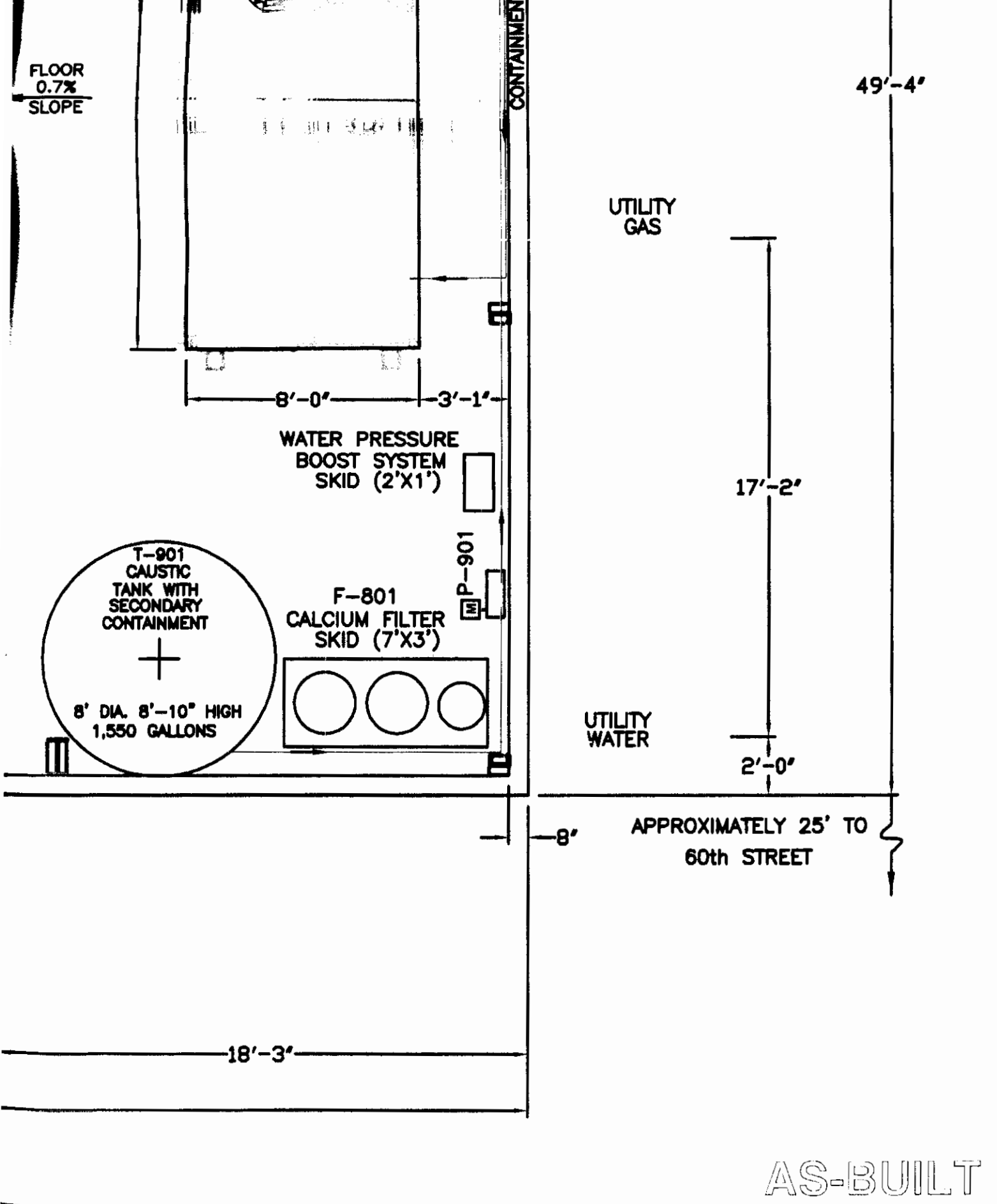
CHECKED: JW

**DRAWING**

**REV**

**M-3**

**9**



- ALL PIPING AND CONDUIT SUPPORTS (NOT SHOWN) SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES TO PREVENT SAGGING OR OVERSTRESSING OF THE PIPE AND CONNECTIONS. ALL PIPING SHALL BE Labeled WITH IDENTIFICATION TAGS.
- PROCESS PIPING AND VALVES SHALL BE Labeled WITH FLOW DIRECTION AND CONTENT AT ALL ABOVE GROUND LOCATIONS.
- FINAL DESIGN OF VAPOR CONDITIONING PACKAGE SHALL BE DETERMINED BY TREATMENT SYSTEM CONTRACTOR.

0 4 8  
  
 APPROXIMATE SCALE IN FEET

## TREATMENT COMPOUND PROCESS LAYOUT

**PEMACO SUPERFUND SITE**  
 5050 EAST SLAUSON AVENUE  
 MAYWOOD, CALIFORNIA

**PREPARED FOR:**  
 U.S. Environmental  
 Protection Agency  
 Region IX  
 San Francisco, California

**PREPARED BY:**  
  
**JACOB & HEPNER ASSOCIATES**  
 ENGINEERING - ENVIRONMENTAL - ENVIRONMENTAL  
 15375 BARRANCA PARKWAY, SUITE J-101  
 SAN DIEGO, CALIFORNIA 92168  
 PHONE: (619) 453-1048

**SCALE:** AS SHOWN

**DESIGNED:** JW & DC  
**DRAWN:** DC & JBP  
**CHECKED:** JW

**APPROVED**  
**AS BUILTS**

**DATE:** 07/19/2007

**DRAWING**

**M-4**





# TREATMENT SYSTEM PROCESS AND EQUIPMENT DETAILS

PEMACO SUPERFUND SITE  
5050 EAST SLAUSON AVENUE  
MAYWOOD, CALIFORNIA

PREPARED FOR:  
U.S. Environmental  
Protection Agency  
Region IX  
San Francisco, California

PREPARED BY:  
**TN & A** T N & Associates, Inc.  
Engineering and Science

SCALE: AS SHOWN

APPROVED  
**FINAL**

DATE: 12/18/2008

DESIGNED: ERM

DRAWN: DC

CHECKED: JW

DRAWING

REV

M-5

1

APPROVED FOR CONSTRUCTION